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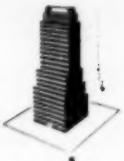

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TEACHERS COLLEGE RECORD

Education and the Technological Revolution*

GEORGE S. COUNTS

PROFESSOR EMERITUS OF EDUCATION, TEACHERS COLLEGE

APPROXIMATELY a generation ago one of our greatest Supreme Court Justices, Oliver Wendell Holmes, observed that "what we need today is less inquiry into the abstruse and more thought about the obvious." While I would have no objection to more inquiry into the abstruse, I believe that Holmes was profoundly right. And, as in my other lectures, I am going to elaborate the obvious.

The peoples of the world in the present epoch are leaving behind the material forms and agencies of a civilization which in its broad outlines endured for many centuries. This civilization was based on agriculture, animal breeding, handicraft, simple trade, and human energy—a civilization that in its many variants dates practically from the beginning of recorded history. The civilization which our fathers and mothers brought to the New World in the sixteenth and seventeenth centuries and molded into special patterns during the succeeding two or three hundred years was one of those variants.

A new civilization is rising in the West and spreading swiftly throughout the world—a civilization that is coming to be called industrial—a civilization so strange in its forms, so vast in its reaches, so complex in its patterns, and so mighty in its energies that thoughtful men and women fear that the control of its operations may prove to be beyond the powers of its creator. The fact must be emphasized, moreover, that in spite of the common reference to the "industrial revolution" as a limited series of changes in modes of production which took place in England in the eighteenth century and in other countries at later times, the revolution has actually been gathering momen-

* This is the second in the series of lectures on "Education for a Society of Free Men in the Technological Era" delivered by Dr. Counts in Brazil in 1957.

tum with every decade. Industrial *civilization* is probably still in its early infancy. What it will be like when fully matured we do not and cannot know. That it will assume, at least for a time, different forms in different societies, among peoples of diverse cultures, may be confidently expected. Moreover, although certain of its broad imperatives and potentialities are already clearly discernible, we may be sure that it will bring many surprises, challenges, hazards, and opportunities to mankind.

The basic source of this new civilization is science. We must all concur in the judgment of Preserved Smith in his *A History of Modern Culture*. "Of all the elements of modern culture," he writes, "as of all the forces moulding modern life, science has been the greatest. It can be shown that all other changes in society are largely dependent on this. Thought, philosophy, religion, art, education, laws, morals, economic institutions, are to a great extent dependent upon the progress of science. Not only does science alter techniques in the production of wealth, but it alters man's view of the world in which he lives. The world-view is perhaps the decisive factor in moulding life and civilization." Undoubtedly the rise of science distinguishes our age from all the preceding ages of human history. And technology is the application of the methods and findings of science to the ways of life.

The penetration of science and technology into our culture involves education in two major tasks—the one relatively simple and the other profoundly complex. The first is the mastery and advance of scientific and technical knowledge, the training of engineers and scientists. Although at the moment this task arouses considerable excitement in my country because of the astonishing successes of the Soviet Union in this realm, it should not be our major concern. The real problem lies in the social, political, and moral sphere—in the sphere of values and understandings. We must strive in all haste to rear a generation capable of living with and directing toward humane ends all the resources of science and technology. The emphasis here will be placed on technology.

This question takes us again into an inquiry regarding the nature of culture. We must realize that a new cultural element changes the character of both the culture and the people involved. The introduction of such a powerful element as technology is therefore a most serious matter. It does not mean merely an addition to elements already present. A culture is much more than an aggregation of distinguishable elements. It is much more than the sum of its parts. It is essentially a system of functional relationships in which the diverse elements react upon one another and are bound together into a kind of organic unity. Consequently, a new element will affect eventually, according to its strength, the entire system of relationships. And this means that it will change the very character of the people nurtured by the given culture or civilization. A Connecticut clergyman, Horace Bushnell, saw this clearly in the middle of the last century. "This transition from mother and daughter power to water and steam power is a great one," he wrote, "greater by far than many have as yet begun to conceive—one that is to carry with it a complete revolution of domestic life and social manners."

Technology impresses its special character on a culture and on the bodies, minds, and hearts of those who use it. To think of technology solely in terms of its material products, of its discoveries and

inventions, would be a grave mistake. In essence it is a process, a way of working, a method of attacking problems, a mode of viewing the world. As such, it has a number of characteristics. First, it is marked by emphasis on precision and ever greater precision, on orderly and defined relationships. Second, it is experimental in method, guided by bold imagination and careful observation, irreverent of the past, of great names, of authority as such in every form. Third, it is practical, concerned with the useful rather than the academic, with the application of knowledge to the ways of life rather than with the cultivation of knowledge for its own sake. Fourth, it is planful, insisting on the utility of design, on the rational ordering and coordination of materials and energies in the light of purpose. Fifth, it is dynamic, ever challenging the old, ever seeking new knowledge and new and more efficient ways of doing things, ever striving to push forward the boundaries of understanding and control. Its symbol is the laboratory. Clearly, in taking such a powerful and aggressive element to its bosom, any civilization is asking for trouble and crisis, excitement and adventure without limit.

The interaction of a culture and a new element, of course, works both ways. Every culture always impresses its special character on technology. Just as fire or the wheel has been put to the most diverse uses by different peoples, so technology can be directed toward the most diverse ends. It may be employed to destroy everything that is good in the world and to fasten some form of despotism on all peoples. Also, we have reason to hope, it may usher in the most glorious age of human history. At bottom the issue here is moral in character. Technology has raised anew and on a vaster scale than ever before the ancient question of the values by which men live.

The process of interaction between the old and the new of a culture may generate severe and even mortal strains in the society involved. Thus the swift transformation of the material foundations of life and the lag of institutional, ideological, and moral adjustment seem to be at the bottom of the terrifying crises, the wars and depressions, the revolutions and counterrevolutions of our time. Our world, in both its domestic and its international aspects, is out of joint. In 1937 the distinguished English archaeologist Stanley Casson published a book entitled *Progress and Catastrophe*. In this work the writer attempted, in the light of the entire human record, to answer the question as to whether the lot of man has been one of progress or of catastrophe. His answer, of course, was that man has experienced both. He concludes his review of the long human adventure with these words: "When his practical inventiveness ran ahead of his moral consciousness and social organization, then man has equally faced destruction. Perhaps today we are in this stage." The intervening two decades would seem to have strengthened rather than weakened his foreboding. Our "practical inventiveness" has beeen rushing ahead, while our "moral consciousness and social organization" have made little progress.

II

In the autumn of 1938, following the Munich Pact which was to "bring peace in our time," Anne O'Hare McCormick, one of our most distinguished commentators, observed in her column in *The New York Times* that "all of those things are happening in the world that could not happen." Mrs. McCormick, of course, knew that things don't happen that can't

happen. Obviously what she meant was that many things were happening which could not have happened if our basic premises and assumptions about the world had been sound. She was also saying that our minds were dwelling in a world that had passed away, that we live in an age marked by changes involving the very foundations of civilization and the relations of nations, that we live in a revolutionary epoch which embraces the whole of mankind.

In this sense we have seen many things happen that could not happen. The First World War was such an event. All sensible people knew before August, 1914, that the statesmen of Europe would never allow their differences to reach the point of an internecine struggle that would place in dire peril the whole of Western civilization. And after the war began they knew that it could last only a few months because the economies of the several nations involved could not long bear the tremendous costs of the struggle. We in the United States, though we had our sympathies, resolved at the outset that we would never become directly involved. Yet we were drawn inexorably into the struggle and sent our young men into battle beyond the oceans, contrary to our entire isolationist tradition which had been built up during three centuries in North America.

We entered the war under the slogan of a "war to make the world safe for democracy." After it was over we were convinced that such had been its purpose and that democracy had triumphed. Had not the great autocracies of central and eastern Europe collapsed—first the house of the Romanovs, next the house of the Hapsburgs, and finally, the strongest of the three, the house of the Hohenzollerns? The road to the future was clear, and there could be only one road —the road to democracy and popular government. Anything else was unthinkable. Yet on the ruins of the ancient autocracies there arose new revolutionary systems which proved to be far more tyrannical than the old—the "popular despotisms" of Bolshevism and Fascism.

When the Bolsheviks, a tiny minority of revolutionaries, overthrew the promising Provisional Government in Russia by force and violence on November 7, 1917, we knew that they would survive only a few days or weeks because they were opposing the whole trend of the age—the trend toward popular rule. Moreover, in their proposal to abolish the institution of private property in land and the tools of production they were obviously violating the laws of nature revealed by the classical economists of the nineteenth century. Indeed, an American Secretary of State in the late twenties declared Russia an "economic vacuum." That the Soviet Union under the dictatorship of the Bolshevik Party would develop into the towering industrial colossus of today was quite beyond the bounds of common sense.

The rise of Hitler also, not to mention Mussolini, was contrary to all the rules of logic. When he first appeared, shouting his barbarous doctrines of Nordic superiority, he seemed to all right-thinking people a comic figure on the stage of history. With his little black moustache he reminded one of Charlie Chaplin. With his arrest and subsequent imprisonment, following his "beer hall putsch" in Munich in 1924, all agreed that he was finished. While in prison he wrote *Mein Kampf*, in which he outlined his objectives and methods with utter clarity. Yet no one took him seriously because the German people were the most literate great nation in Europe—a people, moreover, who had contributed mightily to

the development of European culture in the realms of art, music, literature, science, and philosophic thought. Yet he came to power and plunged the whole world into darkness.

The great economic depression which hit the United States and most of the rest of the world in 1929 likewise could not happen. The American economy had been moving from triumph to triumph, and every American family was to have a "chicken in every pot and a car in every garage." Yet, in spite of all the wise soothsayers, the depression came and lasted in some measure until the economy was rescued by the Second World War—by far the worst depression in the history of the Republic.

The Second World War, like the first, was also impossible. Again we resolved not to become involved. American soldiers, we were assured, would not be called upon to fight on foreign soil. Yet they died by tens of thousands in the most distant regions of the earth, on the land, in the air, and in the water, in the prison camps and on the death marches of Germany and Japan. Today we rightly fear the coming of a holocaust that would dwarf any previous death grapple of the nations.

The disaster at Pearl Harbor which precipitated the United States into the Second World War must also be listed. After the event several inquiries into the question of responsibility were launched. The fact is that the American people generally were responsible. We lived under the spell of an illusion which we shared with practically all European nations. If it had been Germany in the Pacific, or any other Western state, we would not have been caught unaware. But it was the Japanese, a colored people, and therefore not to be taken too seriously. The following story went the rounds in those days: An American naval commander was asked what would happen if the Japanese fleet were to attack San Francisco early some morning before breakfast. The answer he made was that the American forces would get up, go out and sink the hostile vessels, and return in time for breakfast. Asked for an explanation of this happy disposal of the matter, he replied that the Japanese were mere imitators and incapable of creative and original thought. Their ships were badly constructed, their armaments were inferior, and their gunnery was bad.

The creation of the atomic bomb was another impossibility. Although this fateful advance in the destructiveness of weapons of warfare had been foreshadowed by the work of the physical scientists since the opening of the century, the suggestion that matter would be converted into energy made little sense to the ordinary citizen. And as the scientists who had fashioned the first atomic bomb awaited the outcome of the test on the deserts of New Mexico in July, 1945, they were by no means certain that the contraption would actually explode. But it did, and in so doing opened a new epoch in the history of the race.

The list could be greatly extended, but time does not permit. It must suffice to say that the end is not in sight. During the next half century we shall doubtless see many more things that could not happen. As a distinguished student of the history of engineering and technology, R. J. Forbes of the University of Amsterdam, has recently written: "The heralding of the Atomic Age has rudely awakened us to the fact that, to paraphrase the words in which Newton summarized his life's achievements, we have picked up but a few pebbles on the shores of a great ocean that still remains to be explored." Perhaps the most revolu-

tionary discoveries and inventions lie in the future, provided mankind has a future. To prepare a generation to expect and to live with the impossible should be one of the major objectives of a liberal education.

III

Already, as we have noted, the world has been profoundly transformed by the impact of science and technology on the heritage bequeathed to us by the nineteenth century. Out of this impact have emerged seven stark realities which are largely responsible for things happening that could not happen. These realities must be brought into our basic premises about the world if we are to deal rationally with problems and crises of the coming years. Indeed, any one of these realities would be sufficient by itself to mark the coming of a new age.

In the first place, the whole earth has been reduced to the dimensions of a little neighborhood. As a result of this development we may say that a major cycle in the life of man is closing in our time—a cycle which embraces hundreds of thousands, possibly a million years. It opened in that long-forgotten age, aeons before the dawn of recorded history, when man moved out from his place of origin, from some Garden of Eden, to occupy and sustain himself in practically all parts of the earth. In the process of migration, settlement, and adaptation, combined with the operation of factors of geographical barriers, great distances, and isolation, the several races and varieties of the human species, the many languages, religions, cultures, and political systems were formed.

For some time now, probably since the voyages of Columbus and Vasco da Gama, and particularly during the present epoch, this ancient tendency toward separation and differentiation has been reversed. In terms of means of communication and life conditions that bind men together into communities and societies, the whole earth is no larger than that tiny Garden in which man first ate of the fruit of the tree of knowledge of good and evil, and thus became man. And the divers members of the human family, with their long heritage of rivalry and conflict, of prejudice and hatred, are being pressed together in this tiny garden. As a consequence, the lot of each, including ourselves, is being joined in ever-growing measure with the lot of all. From this condition there is no retreat. We in the Americas in particular must realize that the great oceans, east and west, that protected us for centuries do so no longer.

In the second place, the colored peoples of the earth are rising everywhere, from Harlem to Tokyo and Timbuktu. So, a second great cycle, embracing approximately five hundred years, is passing into history. At the beginning of this period the light-skinned peoples of Europe were in imminent danger. Indeed, to the mythical visitor from Mars it might have appeared at the time that they stood a good chance of being either enslaved or driven into the sea. The Tartars still occupied much of Russia; the Moors were still entrenched in Spain; and the Ottoman Turks were striking boldly and powerfully at the southeastern gates of Europe. Then, owing to a number of factors, one of which was certainly revolutionary inventions in the modes of warfare and another the advance of nautical science, the tables were turned. These Europeans took the offensive. They threw off the Tartar yoke, expelled the Moors, halted the advance of the Turks, discovered and conquered the New World, took possession of the islands of the eastern seas,

swept over the Dark Continent, and penetrated the vast expanses of Asia. By the end of the nineteenth century they held nine-tenths of the land surface of the globe and dominated the remainder. As a result of their fabulous successes, they developed a sense of unqualified superiority, identified themselves with the advance of civilization, and assumed that they were destined by their own nature to rule the "lesser breeds" of man forever.

Again the tables are turning. The surviving colonial empires of the eighteenth and nineteenth centuries, the British, the French, and the Dutch, are in process of dissolution. And the colored peoples will not be satisfied until they have achieved equal status among the nations. Nor will they be satisfied until they have removed the last vestige of imputed inferiority which the power of the white man forced upon them.

In the third place, the center of gravity of industrial, military, and political power has already shifted from Western Europe, where it had rested during the modern period down to the end of the nineteenth century. It has shifted east and west, to Russia and the United States. Six of the eight so-called great powers which ruled the world fifty years ago have been reduced to the status of secondary powers by the wars of our period. The fiasco of the British and French attack on Egypt in the autumn of 1956 reveals to all eyes how the mighty have fallen. At present only two great powers remain. If they were alike in their traditions, institutions, and basic values, the situation would be critical, as any student of history would know. Thus, Charles A. Beard, the great historian, wrote to me on July 13, 1945, before the war was over in the east: "The sky is clear and ominous: only two mighty armed powers are on the horizon. What impends and with what portents? Day and night, I wonder and tremble for the future of my country and mankind." We have reached the point in history foreseen by Alexis de Tocqueville in 1835. Speaking of the Russians and the Americans, he wrote: "Their starting points are different, and their courses are not the same; yet each of them seems marked out by the will of Heaven to sway the destinies of half the globe."

That this situation will change in the decades ahead is clear. We may expect to see the renewal of the British Commonwealth, the integration of the West European states, and the rise of new great powers perhaps in China, India, Brazil, and possibly in other regions of the earth.

In the fourth place, the whole world is threatened by a powerful and ruthless totalitarian movement—Soviet Communism. Stemming from the Russian Revolution of 1917, this movement constitutes a strange and dynamic synthesis of an old Russian revolutionary tradition, out of which Bolshevism came, and Marxian doctrines, Russian expansionism, and Russian Messianism. With a sense of mission rarely equalled in history, the Soviet leaders see the eventual spread of Communism over the entire earth under their inspired guidance and through the extension of Soviet power. Their triumphs during and following the war in advancing their dominion in eastern Europe and Asia confirm these men in their doctrines. The death of Stalin and the rise of Khrushchev to power should deceive no one on this point.

Today the members of the tiny oligarchy in the Kremlin, which holds sway over practically one-third of the human race, believe with the fanaticism of religious conviction that the forces of his-

tory are working swiftly and inexorably on their side. They are profoundly convinced that "all roads today lead to Communism." Through their own Communist Party of the Soviet Union and the network of Communist Parties embracing practically all countries they are subjecting to implacable and pitiless attack the liberal and democratic forces of the world. With cold and careful calculation and guided by the ethics of battle they are promoting strife and unrest everywhere beyond the borders of their own domain. And as they excoriate the decaying imperialisms of the past they seek to fasten on mankind a new imperialism far surpassing in rigor and ruthlessness the colonial systems of the nineteenth century. In Hungary in October and November, 1956 they presented to the world a perfect exhibit of their methods, morals, and purposes.

In the fifth place, war threatens the very survival of civilization. Here is the supreme question confronting mankind in the second half of the twentieth century. While in the past the great destroyer has devoured and enslaved many tribes and peoples, today it places in jeopardy the entire human adventure. We know that total war, waged with the rapidly advancing military technology and with that spirit of ruthlessness which in our lifetime has greatly weakened the sense of mercy and humanity, threatens all the ways and values of civilized life. We know that it constitutes the most dangerous threat to the survival of civilization that mankind as a whole has ever encountered. We must remember that the earth today is a little neighborhood.

Unless this terrible scourge is driven from the earth, no civilization worthy of the name can be expected to endure. Otherwise, with the earth growing ever smaller and the engines of death ever more destructive, preparation for war may become the all-absorbing interest of mankind until the arrival of that fateful day when time shall be no more. A few short years ago we were contemplating the awful moment when, perhaps without warning, great cities would be consumed in the purple and orange holocaust of atomic explosion. Now we have the so-called hydrogen bomb, which, if let loose in the world, might exterminate the entire population of the earth and render it uninhabitable for centuries. As to what dreadful weapons may lie beyond the veil that mercifully shrouds the future, even distinguished scientists can only speculate. During the present respite, how long or short we know not, we have our chance of building a just and lasting peace.

In the sixth place, the advance of science and technology has put in the hands of men fabulous power for peaceful uses—power over material things, power over the life process, power over the human mind. In 1835, according to the German engineer and economist Leo Hausleiter, the total capacity of machines in the world was approximately 650,000 horsepower. By 1900 in the United States alone the figure stood at 70 million, and by 1935 at over 1 billion. Today it cannot be far from 2 billion. If one horsepower is reckoned as equal to the power of twelve men, this means that the American people have working for them over 20 billion mechanical slaves, almost ten times the total population of the earth. And Leland Olds, formerly chairman of the Federal Power Commission and a life-time student of mechanical power, has recently predicted that power consumption in the United States "might increase six to eight times by 1970." When we consider that the age of atomic en-

ergy, electronics, and automation is upon us, we can see that not only the contours of the economy, but also the contours of labor and leisure, of our whole way of life are certain to be radically transformed. At this point we are reminded of the observation of Aristotle: "If every tool when summoned could work of its own accord, as the creations of Daedalus moved of themselves or the tripods of Hephaestus went of themselves about their sacred work; if the weavers' shuttles could weave of themselves; then the master workers would need no apprentices, and the landlords would need no slaves." Today, of course, in many respects we are far beyond the vision of the ancient philosopher.

Power over the life process is almost equally impressive. Unquestionably the advance and application of medical science constitute one of the glories of our civilization. Our fathers and mothers of the eighteenth and early nineteenth century had little more control over the life process than the people of antiquity. They multiplied without restraint, they lived on a monotonous and badly balanced diet, they were mowed down by disease, and they grew old in middle age. The average expectation of life in the most advanced communities and regions was between thirty and thirty-five years. Today most of the dread diseases of the past have been banished, control over births is widely practiced, and the life span has been raised to seventy years. With further developments in chemistry and the biological sciences, the time may not be far distant when man will be able to fashion himself into whatever image may strike his fancy. Given the present level of our ethics and our social organization we can view such a possibility only with deep misgivings.

The increase of power over the human mind constitutes, from the standpoint of free society, one of the most crucial problems of the age. Such a society rests not only on guarantees of individual security from the violence of mobs and the arbitrary acts of government, but also on general conditions of life that make possible the development of informed and independent judgment. The advance of technology has created new and powerful instruments of mind control; and the entire process of mind-forming has become more and more organized, or at least subject to organization. The individual has become increasingly dependent for information, political ideas, and social attitudes, upon organized education and the new media of mass communication, particularly the daily press, the comic, the movie, the radio, and television. That these new agencies have enormous power has been demonstrated in our time by both advertising agencies and totalitarian states. If conducted with a high sense of public duty, personal integrity, and devotion to truth, they may serve mightily to promote enlightenment, understanding, and good will within the nation and throughout the earth. In a world as vast in its reaches, as complicated in its structure, and as dynamic in its movements as ours, they are indispensable to the successful functioning and perhaps the very survival of a democratic society. They are also equally indispensable to the totalitarian state.

IV

We enter the atomic age with minds formed largely in pre-industrial times. And the fact must be emphasized repeatedly that the strange technological civilization which has burst upon mankind so suddenly and which is sweeping across the world so swiftly is still in its

early stages. In certain of its phases it is far more advanced than in others. Our functional ideas, our moral conceptions, and our social organization lag seriously behind our modes of livelihood, forms of communication, use of mechanical energy, and scientific knowledge. This lag is doubtless responsible for many of the troubles and conflicts of our time. It is certainly the underlying source of the more powerful and disrupting tensions to be observed within our domestic society and among the nations of the world. Today a great gulf stands between many of the stubborn realities of our emerging industrial civilization and our customs, loyalties, understandings, and outlooks. It has been said that "distance has been annihilated, but the sense of distance remains." This could be said of so many things in the world today. The task of bringing our old minds into accord with the facts of the new world is a gigantic and urgent educational undertaking. Indeed, we shall not know peace and serenity until this is accomplished.

Individualized Reading Is Not a Thing!*

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THAT learning to read is an individual matter no authority will deny. Nor is it controversial to say that, within each person's generalized reading ability, there exist unevennesses in skills development. Nor does anyone question that within a given classroom there will be a wide range of abilities in reading, and that the older the group of children, the wider the range. Nor is there much argument that causes of retardation in reading are varied, and usually multiple. While other general agreements might be noted, these seem to be sufficient to point up the fact that whatever the sequence of learning activities provided for children, whatever the time allotments, whatever the reading materials and aids provided, whatever the methods employed, learning to read is and will continue to be individually achieved. Every reader will always differ, in use of skills, in general ability, in preference and taste, in interpretation of the printed page, from all others. A reader is always alone in his reading.

That it is the responsibility of the school to teach reading, no educator will deny. Nor is it controversial to assert that throughout the entire school life of the child attention to the further improvement of his reading skills and abilities is necessary. Nor do teachers reject this responsibility. Every day of the child's life at school he is faced with reading tasks which, in one way or another, are contributory to his assessment of what is involved in unlocking words, phrases, sentences. And, moreover, increasingly teachers are seeking better arrangements, better materials, better methods and techniques for guiding children in this important cultural acquisition. Teachers are alert to the child's need to read, to read increasingly efficiently and effectually, and to read for many purposes in various kinds of content. A reader is always using his skills in various combinations in comprehending the printed page.

That reading is taught differently from school system to school system, and from school to school is also well known. How reading is taught is, of course, dependent upon the basic beliefs held in the particular situation, the approved process of curriculum designing, the methods suggested, the materials supplied, the competences of the individual teacher. Although there has been, quantitatively, considerable experimentation reported in professional literature, there is much yet to be done. Reading is so complicated a human activity and so dependent on multiple factors for achieving success that, with all the experimentation and research, differing viewpoints about methods and procedures do exist. Even differ-

* A chapter in *Individualizing Reading Practices*, Alice Miel, Editor, Practical Suggestions for Teaching, No. 14. Bureau of Publications, Teachers College, Columbia University.

ences about what it means to read are not uncommon. Because schools do want children to read as well as they can, they use those arrangements for reading which they believe will get the best results. So there is diversity in how reading is taught in every classroom. Even in those school systems where one set of materials and one method are approved, there is difference because no one has been able, if he would, to standardize human nature.

That there is rather common use of group-reading methods and procedures in classrooms today is observable to anyone who cares to take the time to look at practice. The arrangements for groups, the size of the group, the amount of time spent with a group in teaching reading skills certainly differ. But the basic faith that to get children into a group situation, with similar materials, to learn to manipulate certain reading skills is the most widely held belief in elementary schools today. Sometimes the entire class is the group. Sometimes a three-group arrangement—high, medium and low abilities—is employed. Other variations can also be seen. The number of groups formed for teaching reading skills is a matter of practicality. The belief back of such grouping is that here is the most economical, efficient, useful way to teach reading skills to boys and girls, even though learning to read is an individual matter. Though group instruction is utilized, in reality application of that type of instruction by the learner is always unique.

At the present time some questions are being raised, some doubts voiced, some assertions made about the practices currently widely used in guiding children in their skills learnings in reading. Many of these doubts and questions are procedural and practical ones. If learning to read is an individual accomplishment; if schools *will* succeed in teaching a child to read; if there is no one method that can guarantee, one hundred per cent, results in children's reading achievement, then why not break the lock step in methods and materials for group teaching of skills? Why not truly individualize reading? Is not individualization more practicable than general group procedures? Does not group reading serve better ends when skills are taught individually? If we note and alleviate the specific lacks which a child demonstrates in his reading, will he not progress faster and with greater confidence than if we guess about those lacks and teach to such hypothetical shortcomings in general group situations? Are we taking seriously what we know about the reading act when we use procedures that basically deny individualization?

Not only are such questions as the preceding being raised; some teachers have begun, in their own classrooms, to experiment with different arrangements for teaching reading skills. They are trying so to arrange the time available for teaching reading that a child gets individual attention in learning to be a skillful reader. They are trying to provide practice in reading that is closely related to the demonstrated needs of the child. They are trying to assess more realistically, with the individual child, the strengths and weaknesses of his current performance in using reading skills so that he knows more precisely wherein he is succeeding and where he needs to put his energy for improving his reading ability. They are providing settings that permit the child and the teacher to concentrate quite specifically on the individual child's silent and oral reading, his interests in books, his interpretations of meanings, his attitudes toward the reading process, toward various types of printed

material, and toward different kinds of content. They are encouraging children to choose their own reading material upon which the teacher and child will work together. They are experimenting with forms of record-keeping that indicate the quantity of material read, the specific skills and abilities worked upon, the general direction in which the child is moving in his reading accomplishments. And, for want of a better name, the innovations have come to be known as "individualized reading."

This experimentation in "individualized reading" is gathering momentum. Many teachers, dissatisfied with both the spirit and results of lock-step procedures, are eager to know more about what is involved in changing one's classroom practices in individualizing the teaching of this very important cultural tool. Already, too, there are springing up some unfounded claims, some gross misinterpretations as to what "individualized reading" is and can guarantee. Already one can hear people asking: What is this new method for teaching reading? What are the steps which I must follow to do "individualized reading" correctly? What is the right way to do "individualized reading"?

Certain misconceptions about individualizing reading guidance need to be avoided, else what is basically a creative, insightful approach to children in their self-development as readers becomes a mechanical, rote performance of perfunctory classroom details.

In the first place, "individualized reading" is not a single method, with predetermined steps in procedure to be followed. It is not possible to say that every teacher who would individualize guidance in reading must do this or that. It is not feasible or desirable to present a simple, single methodological formulation of what is right in "individualized reading" which every teacher shall follow.

In the second place, "individualized reading" is not a guarantee of the alleviation, for either the child or the teacher, of all the problems and pressures involved in reading instruction. It does not assure an educational paradise, a perfect state, an ideal situation. Nor does it guarantee untoward results, wherein all children achieve equally well. Nor does it guarantee that reading will be more easily taught and learned—that reading will automatically be fun and play.

In the third place, "individualized reading" does not eliminate group reading. It does not mean that there will never be group-reading sessions, nor that group reading is, in and of itself, bad practice. It does not suggest that the child learns nothing in group-reading experiences. It does not imply that "traditional teachers" use groups, whereas "modern teachers" always guide the child in his reading on a one-to-one basis.

Also, "individualized reading" does not support a laissez-faire attitude toward instruction in which the child merely does what he wants to do because he wants to do it. The child does not prescribe whether or not he will participate in developing skills, what materials will be supplied, what skills he will work on, or any other matter that pertains to professional competence, which is the teacher's role. It is not a soft, unstructured, unplanned, loose use of time and materials. It is not "catch-as-catch-can" in designing or doing. It does not rely upon the whims, the momentary impulses of the learner for its direction, nor upon the casual or sporadic desires of the teacher.

In other words, "individualized reading" is no panacea for all the ills of teaching reading. It can never be effec-

tual in improving children's abilities to read if it becomes a patent procedure, a sentimental devotion, a rite or ceremony, an exclusive ideology, a vacuous symbol, a standardization, a slogan, a dogma. Its usefulness is dependent upon well-defined purposes and values in operation and action, upon creative uses of time, materials, and procedures suitable to the content for consideration, upon critical appraisal and assessment. "Individualized reading" actually ceases to exist the moment procedures replace perceptiveness; routine supersedes reflection; things take over for thinking; custom curbs creativity.

Looked at constructively, the individualizing of reading guidance is dependent upon the existence of certain conditions that release children to learn to read and that undergird whatever specific arrangements and techniques are employed. Some of these conditions are ideationally rooted. Others are organizational. However, whether ideational or organizational, they are both dependent upon the premise that skills in reading are not ends in themselves but rather means to the end of true reading as meaningful comprehension of what the printed symbols are conveying, denotatively and connotatively, from a writer to his audience. Skillful reading, then, is reading in which the individual uses to the best of his ability those skills of comprehension and rate, silently or orally, as the case may be, for the purpose of wresting meanings from what would otherwise remain neatly designed but nonsensical mechanical markings on paper.

ESSENTIAL INSIGHTS

The foregoing suggests that certain insights are essential for a successful program. The teacher who is individualizing skills learnings in reading:

Views reading as one of man's chief inventions for communication. He recognizes that communication through language—speaking, listening, writing, and reading—is a very important means of conveying thoughts and feelings from one human being to another. He sees that reading is an in-taking by the individual of what a writer has put out. He sees, also, that listening and reading are interrelated but not identical; that all the language arts feed each other, but are unique in what they can do for man as a communicator. He recognizes that man has developed other forms of communication—music, dance, painting, sculpture, to mention a few—but that language is probably man's most widely used, direct means of reaching another's mind. He notes that man has developed various media besides the printed page for communicating with language—charts, films, radio, television—but that these serve different purposes than does a book, magazine, or brochure. He understands that printed language is sometimes logical, discursive, utilitarian, and at other times impressive, nondiscursive, aesthetic. In other words, the teacher gets reading in perspective as neither the "be all" and "end all" of communication, nor subservient to other types or media for transmitting ideas and feelings. He views reading as a significant cultural and personal tool that does some things for the individual which no other creation of man can do as well.

Understands that reading is a unique achievement which many persons possess. He sees that there are many influences which bear upon each personality and which affect achievement in reading —home influences, community influences, friendship and peer influences, previous school influences. He takes into

account that such matters as motivation, physical growth, intellectual ability, social-emotional development and the like are all intimately commingled in how and what one reads. He recognizes that what one gets from a printed page depends in a large measure on what one brings, experientially, to that page. He presumes that individuals will be quite different in their urgencies concerning how soon, how rapidly, how avidly, how extensively, how correctly, how deeply they will read. He further presumes that he will meet these uniquenesses differently with each individual, with emphases and aids that seem appropriate to the best development of the child at this particular time.

Recognizes that learning to read is a continuous, cumulative accomplishment. He knows that no reading skill is ever wholly learned at one time, but rather continues to be refined through successive stages of maturing. He sees that practice is necessary for reinforcing a skill learning, and that practice should be appropriate to the specific, demonstrated shortage of the individual. He, further, is alert to the cumulatively diversified use of the skill in different kinds of reading matter, in different kinds of content. He helps the child to recognize accomplishments and encourages the young one to make further improvements. He evaluates for and appropriately with the child such progress as has been made and plans next steps for extending and deepening abilities to read many different kinds of writing.

Is well-informed about reading skills. He is grounded in what is known about skills of rate and comprehension so that he can guide each child effectually to his best accomplishments. He is able to make pertinent observations concerning the child's eye-movements, change-of-pace rate, word-attack techniques. He gives attention to such skills of comprehension as: noting detail, getting central thought, predicting outcomes, ascertaining organization of ideas, grouping big ideas and supporting data, and "reading between the lines." When appropriate, he is also prepared to help children recognize emotive language. In general, the teacher who will individualize his reading guidance has more than an acquaintance with word-attack techniques. He is alert to see that such word-attack techniques as "look and say," context clues, phonics, and structural analysis feed into other skills of comprehension in such ways that the child is conscious of his use of many skills in getting meaning from written communication.

A MATTER OF MANAGEMENT

The preceding guide-lines are surely important, though not all-inclusive. They do suggest, it would seem, that the teacher who individualizes reading needs to be equally as well-grounded in the teaching of reading as one who uses other arrangements. Which leads to another point of considerable significance, namely that individualizing reading is largely a matter of classroom management. Because one believes that individual attention is necessary, he so arranges his use of time, materials, and procedures that the child is sure of personal attention in his attempts to improve his reading ability. What are some of the matters of management that the teacher arranges so that individualization can take place?

The teacher provides ample time for individual reading and for various kinds of group reading. Two aspects of learning to read go hand in hand: learning

how to be effective and efficient with a given skill, and using that skill in books or periodicals which one is reading for self-improvement and enjoyment. Learning to read and reading to learn are so intimately interrelated that the improvement of a given skill contributes to the refinement of a person's general ability to read. And, simultaneously, the present general level of ability to read with meaning points up the further need to improve certain skills.

Because learning to read and reading to learn are two sides of the same coin, both individual and group procedures have a place in the total reading program. When a child is concentrating on learning how to manage a skill, this is a time for concerted individual attention. What is this skill I need to know? How can I use it to improve my reading? What are some ways I can improve this skill? What practice, for reinforcement, do I need to carry on? What further help do I need? How well am I doing in improving this skill? Here the teacher's direct attention to the child in his efforts to improve his reading skills is highly beneficial.

Other aspects of learning to read, however, can best be achieved in group situations. If part of learning to read is to know that every person gets different meanings from and puts different interpretations on the ideas presented in writing, a group that has read or is reading the same material seems necessary. If choral reading is being done, one must have a group. If all the children need help in becoming aware of how to read a specific kind of content, then it is economical at least to introduce the new type of content to the class as a whole. Such examples indicate that group reading serves very valuable ends, as does reading individually.

The purposes for which reading is being done give the clues as to whether individual or group procedures will be most profitably employed.

He arranges for individual skills reading and for independent recreational reading. Here are two distinct types of individual reading, both important in a well-balanced reading program. In the individualizing of skills reading, attention centers chiefly in ascertaining the current level of skills development which the young reader has achieved and in improving those skills in which the child demonstrates least capability. In other words, achievement is viewed as cumulative and forward-moving. So much has been accomplished. One is this good. To be better, let's learn to use this skill more effectually.

When attention is being focused on developing and improving skillfulness, there is, concomitantly, great value in the personal approach, in the consideration which the child gets in addition to the assessment of his skills achievements. By the very intimacy of the situation, there is at least the potential that the child will recognize that his teacher is interested in his development, and thus in him. Here is a time in which he can have the teacher's ear. He is, appropriately, the center of attention. He is able to demonstrate his accomplishments, make plans for what to do next, raise questions, share confidences, get suggestions for other things to read, get help on what may be impeding his more rapid progress, indicate likes and dislikes, and so forth. The child can enjoy skills learning because it is personal, functional, rewarding. He can be honestly encouraged because he can feel his own gains and because he feels his teacher wants him to succeed. He can go on working because he sees that such work pays good dividends. He is not

only learning the skill, but also getting help on how to approach skills learnings, on his own.

A second type of individual reading guidance is that in which the child's independent reading for personal satisfaction and enjoyment is central. A modern program in reading provides for a reasonable amount of time at school for the pleasurable pursuit of recreational reading through fiction, informational material, and poetry. This reading for enjoyment is really quite different from reading being done to improve skills. Independent reading may be done in planned periods set aside for free reading, or it may be a choice during a work period, or it may be something that is done when other work is completed. Whatever the specific time arrangements made for its inclusion, independent recreational reading is an integral part of individualizing reading instruction.

Such reading is the proving ground of all skills accomplishments, and more. Here the child establishes himself not only as a person who can read but also as one who does read—who has discovered that books can be an "Open Sesame" to the confirmation, extension, and illumination of his experiences. Through reading he can transcend time and place, be what he is not, go places or become characters that never have and never will exist, and through all this become one with the universal pulse of mankind.

The teacher's role in children's independent recreational reading is as stimulating and satisfying as helping children improve their skills. For he can discuss with them the ideas and perceptions that they are getting from their reading. He can note their enthusiasms for certain types of content, and see that there are more books and periodicals to lead them on in their particular reading quests. He can provide booklists and suggestions for other books which they might like to sample or read. Again, the personal attention which the child gets, appropriately, from his teacher may encourage him to read more as well as more perceptively, more penetratingly, more discriminatively.

He provides time for children to share their reading accomplishments. As children are developing uses of skills in independent reading, sharing their accomplishments is desirable. Such sharing not only gives the individual satisfaction in his progress, it also extends to the group the benefits of the reading growth of the various individuals. Stories, chapters of books, poems, incidents, anecdotes, conversations, and the like which have been individually enjoyed can be read interpretatively for the pleasure of an audience. Information gained from independent reading can be shared in informal reports, panel discussions, interviews. Book notes, reviews, and recommendations of favorites can be posted on bulletin boards. All these are forms of sharing, and there are still others worth mentioning.

Displays of widely recommended books can be assembled by children. Pamphlet and clipping files can be organized for others to read and enjoy. Individual creative writings of the boys and girls can be made into books and circularized. Group and individual experience records can be shared.

Through various types of sharing, children can see that individuals read for different purposes and in different patterns, that improvement in skills pays off, that much enjoyment is to be had from reading, that shared reading is a delight, that from others' sharing one can sometimes get good leads for what to read next.

The teacher provides a varied, extensive collection of reading matter from which a child can make his choices. To individualize reading enterprises, one needs many materials. He needs both textbooks and trade books. He also needs magazines and newspapers. He needs pamphlets and brochures. He needs commercially-made, teacher-made, and pupil-made practice materials. Diversity of reading matter is important to meet the child where he is in his reading development in skills and in taste. When the teacher is able to supply such a collection of reading matter as has been suggested, the child is likely to be able to select just the thing that, for one reason or another, he really wants to read.

Textbooks written at different levels of difficulty are useful if the teacher is concerned that the child learn skills at his own growing edges. Trade books of different levels of difficulty and of different kinds of content will provide for developing tastes and interests. Fictional and factual books, great stories or classics and the contemporary, realistic and fanciful themes, and prose and poetry will undoubtedly all need to be included to whet reading appetites and to nourish reading tastes.

Moreover, the teacher will surely guide children to sources of book collections beyond the classroom, both the school library and the public library. And he will do what he can to encourage parents and children to begin to build a home library. In all these ways, children are alerted to the wonderful world of books. Thus they are participators in and partakers of ideas and feelings which are available through printed symbols.

He provides a variety of practice materials. As a child reads with his teacher, certain specific strengths and weaknesses in his skills will be observable. From such observation, what further practice materials can be of benefit to the learner can be ascertained. Hence practice and self-testing materials of considerable range in difficulty and in variety and emphasis need to be available in the classroom. Some practice materials may be commercially prepared, others teacher-made. Some may be in the form of puzzles or games, others may be more directly work-type exercises. Some will be introductory in nature—will help the child understand how a particular skill contributes to effectiveness in general reading ability. Others will be self-testing materials—materials that will help the child see how he is coming along in the mastery of the skill upon which he is working. Whatever the form of the practice material, it should be attractive in format, economical of time spent in using it, and directly focused on what the child needs to know.

Another matter pertaining to the use of practice materials should be mentioned here. Some teachers have been encouraging the child to become competent in selecting his own practice materials. These teachers are discussing with the child the skills which need further practice. They have so organized the practice materials that a child can easily locate what is available to help him improve. They note his choices of practice materials and guide him to increasingly more mature ways of working with exercises, work sheets, and the like. Thus the learner becomes increasingly responsible for reinforcing his learnings and for functionally improving his reading skills.

He encourages the child to select reading matter that extends the learner's growing edges. If a child is to develop soundly in reading accomplishments, he

must read things that are meaningful to him. Sometimes he needs to get information which he can use; sometimes he needs to be entertained by a good story; sometimes he seeks the illumination of life and living through prose or poetry. Because reading serves such varied and numerous purposes in one's life, what appeals to a child at one time is not necessarily the appeal at another. Hence, for the child to choose what he will read—a primer, a picture-story book, a pamphlet, for example—is important. Such choosing motivates the reading. It simultaneously, is directly related to learning how to read. (Is this material too hard or too easy for me? Do I want to read more on this subject? Have I sampled enough to see that I want to read this?) Choosing is deciding to make certain discriminative judgments. (Do I want to get information, enjoy a story, or what? Does this book have too many new terms in it for me to comprehend? Will I be spending my time satisfactorily if I read this?) Choosing means planning. (Is this just like another book I have read? Is this book so long that I'll get tired of it before I finish it? Am I willing to work to read this book well if I choose it?) In summary, choosing means pacing oneself to what one can and will do.

When children select their reading materials from a wide variety of what is available, they are making agreements and commitments to read what they have chosen to the best of their abilities. The teacher probably will have to give some guidance, helping the child to be realistic about his choices in terms of his capabilities, his aspirations, his past experiences. But this too is an important consideration in learning to read, and, as such, calls for individual conferring between child and teacher.

The teacher develops an adequate system of record-keeping. In the individualizing of reading, it is necessary for the teacher to develop a plan for keeping records of each child's current status as a reader. Without systematic record-keeping, both the teacher and the child are at the mercy of their memories on so many matters—what has been read, how much has been read, what skills call for more work, and so forth.

There are some criteria for what makes good records. Among the most important are:

1. Do my records easily and clearly show a profile of progress for each child?
2. Is the record-keeping easily and economically done?
3. Do my records show just what the child has read?
4. Do my records show how much the child has read?
5. Do my records indicate quite precisely my diagnosis of lacks in skills of comprehension?
6. Do my records indicate, simply and usefully, progress made in reading?
7. Are my records kept in such a way that they can be shared with a parent in conference?

Whether a teacher uses a folder, a notebook, or cards, economy, efficiency, and simplicity are keys to setting up one's record-keeping. The procedures should be those that the teacher can manipulate with dispatch and clarity each time the child reads with the teacher.

Another aspect of record-keeping is the development of cumulative reading records of children's independent reading. These records are usually kept by the children themselves. They may be notebooks, folders, cards, or commercially prepared materials. Again, they

should be easily manipulated and economical of time. There are, of course, other considerations for such cumulative records of independent reading. Since this is a record of personal reading, the plan utilized should avoid open competitiveness. Such records should be private rather than public. These records will clearly show what was read and when it was read, but beyond that the additional comments or evaluations should be only those that seem pertinent to the record-keeper. And they should be useful to the teacher and child in periodic conferences, for discussion of the individual's interests and tastes, and for suggestions for further independent explorations in reading.

From these kinds of record-keeping, the teacher gets not only important insights into the individual child as a reader but also valuable clues to the types of reading fare widely used in the classroom, new books to add to the room collection, the kinds of books that he may well read aloud to the group to keep them growing in taste in literature.

He utilizes appropriate evaluation procedures. To comprehend as completely as possible the child's strengths and weaknesses in skills and abilities is basic to success in individualizing reading instruction. To this end, evaluation data are of great importance. From such data, the teacher makes plans for working with a child and develops lines of action for pacing the new learnings to the child's present potentialities and capacities.

Some of these data are what we call objective: IQ records and results of standardized reading tests. Some data are semi-objective: the kind and amount of reading shown on a child's cumulative reading records, the teacher's records, or the child's responses to structured, teacher-made instruments for ascertaining a child's reading habits and attitudes, for example. Still other data are subjective: the judgments of previous teachers; the child's own perception of his reading ability; the teacher's general estimate of how well the child can currently read.

It is to be noted that the uses made of such data, in individualizing reading, are for diagnosis of where the child needs help in reading rather than for rating him as a reader. These data, when used well, point up the reading tasks with which the child needs help. They give focus to teaching and learning. And as new data are accumulated, a child and his teacher are able to note gains, make new plans, change directions, and, in general, do those things which will sustain the progress already made and serve as undergirding for new undertakings in reading. Thus, evaluation is continuously supportive, while realistic. Thus, appraisal is integral with teaching.

He makes appropriate arrangements for independent work for others while an individual is working with the teacher. Independent work experiences for children are regularly a part of every child's school experiences. Provision for such experiences is rooted in the belief that there are values in working alone as well as in groups. Study habits and skills are put to use as children, during independent work times, attack jobs, manage their time, make decisions, consider the rights of others, and achieve results on their own.

While the teacher is working with the individual in reading, other children will, of necessity, be working independently. Some teachers use this independent work time as a general skills period, in which the boys and girls work with practice materials in spelling, handwriting, mathematics, or reading, depending upon the urgency for the improvement of particu-

lar abilities in a skills area. Other teachers plan this time to be devoted directly to reading activities on the part of all the children in the room. Here the independent work choices might be, for example: getting ready to read with the teacher, doing appropriate practice exercises, research reading for preparation of a report in a content area, reading aloud to a friend, or enjoying prose or poetry as literature. Still other teachers plan this time as a work period, with many choices available to children: reading, creative writing, creative art work, small-group enterprises, skills practice, and the like. Whatever the specific arrangements for the use of the independent work time, careful planning and agreements about procedures—so that all the children use their time satisfyingly and well—are essential. When children are involved in making the plans, carrying through on independent work responsibilities, and assessing accomplishments and ways of proceeding, they are doing more than making it possible for the teacher and an individual to work together on reading. They are learning to be responsible, reliable members of a working group.

While success in individualizing the teaching of skills and fostering independent reading does call for appropriate procedures and arrangements, these are not enough. Individualizing reading starts not with procedures but with a creative, perceptive teacher—one who believes that children want to learn; who thinks with children rather than for them; who basically respects the individual behavior of every youngster; who works with children in orderly but not rigid ways.

Such a teacher sees the individualizing of reading as consistent with the total designing of living with children in the classroom. Individualization of reading, thereby, gears into the larger context for learning, in which, throughout the school day, children are using their reading skills to functional ends:

To understanding and using ideas
To acquiring important information
To solving problems
To participating in creative activities
To thinking critically
To developing viewpoints and ideals
To evaluating learnings, ways of behaving
To comprehending culture
To understanding self and others
To knowing, being, and becoming.

Education Within Industry*

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FACTORIES today have classrooms, organized programs of studies, textbooks, examinations, even graduation exercises with awarding of diplomas. Some corporations have entire buildings devoted to education. The equipment in many of them is superb, with latest model blackboards, projectors, and sound-recording devices. In one building there are movable partitions on ceiling tracks, permitting a moderate-sized auditorium to be broken up into classrooms —all soundproof. Not all factories, of course, provide such facilities, but they are found to a greater or lesser extent in a predominant number of America's leading corporations and are available under varying conditions to a large percentage of the nation's industrial workers.

Out of 349 replies to a questionnaire[1] directed to 482 of the largest industrial corporations in the country, 296, or 84.8 per cent of the respondents, reported engaging in educational activities of some kind, "education" meaning, for the purpose of this study, a definite program in which knowledge or skills are taught according to some predetermined plan, including group meetings, required assignments, and examinations or some other adequate means of judging achievement. Courses of study include recreational, cultural, vocational, elementary, and high-school subjects as well as advanced studies in managerial and supervisory techniques, in mathematics, and in the various branches of engineering. Hundreds—sometimes even thousands—of student employees of a given corporation attended these courses. Many budgets rival those of good-sized colleges and universities, and expenditures per student are not infrequently two and a half or three times the national average for conventional institutions. Faculties are on either a full-time or a part-time basis, and are drawn from industry or from nearby and sometimes distant colleges and universities. Indeed, it can be said without exaggeration that within the last decade, for the most part, a new sector has been added to the traditional pat-

* This article is drawn from a forthcoming report by the same authors, *Classrooms in the Factories, an Account of Education Conducted by American Industry*, published by the Institute of Research, Fairleigh Dickinson University, and distributed by the New York University Press.

[1] In addition to the questionnaire, information contained in this article and the complete report was obtained from numerous personal interviews and observations, voluminous correspondence with corporation officials, and hundreds of documents, most of them in unpublished form, used by the corporations in the course of their educational activities.

tern of American public and private education.

One corporation[2] offers 1000 separate courses in managerial and supervisory subjects, with an enrollment of some 6500 students. Its annual budget for educational outlays is approximately $45,000,000—more than that of any university in the country with but one exception. Another company is establishing in New York City educational headquarters consisting of classrooms, seminar quarters, laboratories, and faculty offices said to be the equivalent in cost and administration of a new engineering school of 1000 full-time students and to represent an initial investment of $1,000,000. Comparable facilities are being established by this corporation in Chicago and in Winston-Salem, North Carolina. A few years ago a third corporation contracted with a leading university to cooperate in the establishment of an educational program. Over a period of years and at a cost in services of $100,000, the university and the corporation worked together in formulating objectives, developing instructional methods and materials, and measuring achievement. In addition to its regular program of technical and management subjects, this corporation now offers to provide instruction in any subject for which there is a sufficient demand. Many of the courses are open to the wives and children of employees. No tuition is charged, and textbooks are loaned.

It is quite possible, perhaps probable, that the educational policies carried on by these large corporations—leaders in American industry—are being followed rather closely by American industry in general, at least as far as size and resources permit. However this may be, the 296 corporations known to carry on educational activities account for 6,391,717 employees (1955), or 38.8 per cent of the 16,447,000 (1955) persons employed in mining and manufacturing in the United States. The statistics would seem to indicate that this relatively new sector of education is a sizable proportion of the total educational program of the country.

[2] In the course of gathering material for this study, the authors agreed not to mention the names of corporations. Subsequently, permission to do so was granted in most cases. The names appear in the final report.

A SCHOLARLY AND NECESSARY ADJUNCT

Two notions were in the minds of the authors when this study of education conducted by American industry was begun: First, that the courses of study offered were in the nature of fringe benefits—an interesting pastime for some, no doubt, but not too serious from the standpoint of earnest learning. Either this, or else the colleges and universities were somehow failing in their task of education, thereby making it necessary for industry to fill in the gaps. Both of these notions were soon abandoned as utterly untenable.

In the technical area, new employees entering industry cannot be expected to know all the details of every specialized industry that may require their services. If a career in business machines is chosen, the graduate will probably not be versed in all the details involved in the design and production of analog computers, the principles of circuit logic, or the techniques of electric-computer design. If it is the airplane industry that he plans to enter, he will probably have to learn something about fuselage construction, collective pitch throttle synchronization, and drive-train systems. Or, if contemplating the petroleum industry and confronted with a modern fluid catalytic

cracking unit, with its sixteen stories and three acres of pipes, valves, furnaces, vessels, pumps, and controls, he could hardly be expected to know very much about the practical operation of such a monstrosity.

Specific course descriptions in the technical field are usually meaningless to most laymen. Three examples are cited, however, to dispel any notion that education within industry is superficial.

PRINCIPLES OF CIRCUIT LOGIC

Formal and intuitive approach to functional circuit design. Boolean algebra, relay and diode switching, coding, translating and converting; decimal, binary, and coded-decimal adders, accumulators; miscellaneous circuits. Emphasis on logic rather than component. Lecture, discussion, practice exercises.

AERODYNAMIC FLIGHT TEST

The basic theory of flight airspeed and altitude, techniques of data measurement and reduction, determination of static and dynamic flying qualities, performance measurement, thrust determination, and flight-test techniques employed to isolate and eliminate deficiencies in flying characteristics.

THEORY OF ELASTIC STABILITY

Buckling, lateral buckling, beam column, second- and fourth-order differential equations for buckling, buckling for single-span rod, solutions for pinned pin and fixed pinned, elastic curve of fixed-free columns, energy method of buckling, finite difference methods or any end conditions, stepped column, plates and cylinders under end loads, shear loads, and normal loads.

Some of these and similar courses occupy 100 hours, many from 60 to 70 hours, others from 30 to 40 hours. Returns from the questionnaire previously mentioned indicate that, of the 296 corporations conducting educational activities of some kind, 201, or 67.9 per cent, offer technical and professional courses such as the above.

Once oriented to the mechanical intricacies of a given industry, moreover, there is the problem of keeping abreast of the never-ending stream of new inventions flowing from the experimental laboratories and the research centers, and of comprehending the rapid development in such areas as atomic energy, automation, and electronic data processing. As never before, corporation personnel must be continuously informed and must remain flexible—ever receptive to change. Meetings of professional societies, technical publications, and informal contacts all contribute to this end. But many companies provide a more systematic and formal procedure. One company employs engineering professors from nearby universities, and the company engineers attend their courses during the day, on company time. The subject matter varies according to need and current developments, as does the time allotment. Classes may be held several hours a day, or two or three times a week. Another company provides a two-fold program, one on company time and one after hours. Both are carried on as seminars. The company-time seminars are held intermittently, are restricted to invited personnel, and are on a strictly post-doctoral level. Topics having to do with the latest scientific developments are discussed—sometimes by company engineers and scientists, sometimes by visiting specialists from industry or the universities. After-hours seminars are held weekly and are open to all engineering personnel. Some current development in the industry is described by a guest speaker whose talk is followed by an hour of questions and discussions.

No one conventional institution could hope to offer all the advanced courses necessary to prepare graduates adequately for the varied industries requiring their services, or to keep personnel informed

concerning new developments in so many highly specialized fields. The administrative problem alone would be baffling, and the financial investment in laboratories and machines necessary for such a wide range of highly specialized teaching would be prohibitive, especially when such equipment can become outdated so quickly. Advanced technical education conducted by industry, therefore, is no encroachment upon the prerogatives of the conventional technical institutions; it is an activity superimposed upon the existing educational structure by necessity, and a development that can well be regarded as an inevitable consequence of cumulative knowledge and the ceaseless march of minute specialization.

Another main section of education within industry concerns management and human relations, the latter, although an integral part of managerial and supervisory development, being customarily treated in separate courses. Specialization and the accumulation of new knowledge and techniques in this area are comparable, in both extent and significance, to the situation in the technical field already mentioned. In the late nineteenth and early twentieth centuries, Frederick W. Taylor (1856–1915), the generally acknowledged originator of scientific management, took industry to task for its haphazard methods of production. Centering attention upon the individual worker, Taylor demonstrated how systematic work organization could increase productivity. This emphasis upon the worker may be said to have paved the way for Elton Mayo (1880–1949), who conducted exhaustive experiments in the Hawthorne works of the Western Electric Company for a period of twelve years (1927–1939), but, whereas Taylor concentrated on time and motion, Mayo studied thoughts and feelings, showing correlations with productivity quite as striking as anything developed by Taylor.

Since then, a veritable revolution has taken place in industrial management. Instead of centering upon production and regarding workers merely as instruments to that end, with a natural disinclination to put in a fair day's work, progressive management is now employee-conscious. The worker is respected as an individual. The factory, although still a hierarchical structure, is looked upon as a social institution, however vast and complex, and management is being judged increasingly by its ability to give work satisfaction. The day of intuitive decisions, crude methods, and dominance by a forceful, if sometimes arbitrary, personality has passed. Instead, certain knowledge, recognized skills, and an ability to inspire cooperation are required. For this new approach to industrial management, special training is required. Of the 296 corporations offering educational programs, 268, or 90.5 per cent, reported having courses in management and supervision, and 253, or 85.4 per cent, reported teaching human relations.

Probably most college graduates know something about human behavior, including motives, goals, inhibitions, frustrations, attitudes, basic drives, and maladjustments that, all combined, go to make up personality and determine morale. But it is doubtful that many know the best techniques for creating high morale in industry through engendering a sense of belonging, assuring recognition, providing new experiences, establishing a feeling of security; in short, providing work satisfaction which counts so heavily in productivity. Fewer still are likely to understand the full significance of upward and downward communication and their effect upon the worker, the best methods

to use when counseling and conducting conferences, or how group attitudes get started and help or hinder the day's work. Such things must be superimposed upon college courses, carrying the employee student into a realm of functional activity quite beyond the possibilities of college instruction.

Certain technical and management courses are incorporated in integrated programs. Orientation for newly employed engineers, for example, usually includes courses of study combined with temporary assignments and observations, frequently requiring visits to various plants throughout the country. Management and supervisory courses for selected new recruits are similarly arranged, and, even when these courses are open to all qualified candidates, a specific sequence of study is advised. Orientation programs vary widely in length and intensity, according to the level of employees being inducted. For newly employed factory workers, the period may be only a few hours of formal class work, followed by informal on-the-job instruction. On the other hand, young engineers recently graduated may spend as long as two years learning the industry before a permanent post is assigned. Orientation programs of some kind are commonplace; of the 296 respondents to the questionnaire who conduct educational activities, 276, or 93.2 per cent, reported some type of orientation instruction.

Besides the technical and management courses incorporated in integrated programs and the technical seminars explained above, some companies offer a wide variety of courses, generally open to all employees who can benefit by them. Judging by the replies to the questionnaire, the number of corporations pursuing this policy is not large. Only 47, or 15.8 per cent, of the 296 respondents reporting educational programs answered this question affirmatively. Where such programs are offered, however, they are generally extensive, include a wide choice of subject matter, and are well attended. A consolidated index listing such general courses offered by six corporations, selected at random, shows 448 separate titles, many of them being duplicated in the six lists. Almost half are technical subjects on various levels of complexity; 89 have to do with various aspects of management; 28 are office subjects; 25 teach advertising and sales techniques. There are 17 courses in physics and chemistry, 15 in human relations and psychology, 15 in elementary and high-school subjects, 14 in orientation, 10 in economics, and 4 have to do with research procedures. There are only 17 purely avocational or recreational subjects.

The few subjects that might be classified as cultural, that is, concerned with the liberal arts as distinct from vocational, technical, and professional, indicate no lack of interest on the part of industry in the broader aspects of education. The percentage of business executives in leading American corporations holding non-technical degrees seems, in fact, to be increasing,[8] and most large corporations today maintain cooperative arrangements with various colleges and universities, enabling employees to study part time at traditional educational institutions. Many of the corporations defray a part of the expense and some of them pay all. It is not unusual, furthermore, for a corporation to grant a leave of absence to a

[8] Harold S. Sloan, *Challenge Magazine*, December, 1953, New York University Institute of Economic Affairs. A summary of this study appears in the complete report from which this article is drawn. See also W. Lloyd Warner and James Abegglen, *Big Business Leaders in America*, Harper and Brothers, New York, 1955, p. 48.

young executive slated for advancement, permitting an extended time for liberal arts studies. This aspect of education, however, is still left largely to the colleges and universities.

FOUR CHARACTERISTICS

In contrast to university tradition, four characteristics of education within industry soon became apparent to the authors. First, the notion that education ends with a college degree is completely untenable in industry today. Indeed, without conscious and continuous learning, the aspiring young executive or the business professional becomes dated, figuratively speaking, overnight. Of course academicians have long given voice to this idea as an important element of the good life, but the concept of "commencement" betrays the thought, "Commencement for what?" Obviously, for one's lifework, the preparatory education having been completed.

In the second place, employee students attending classes conducted by industry are more highly motivated than college students. The motive is nothing short of a life career in some absorbing creative activity, with constant shifts and changes to challenge the imagination. To that end, the trainees report that they work at their preparation longer hours, more intensively, and more purposefully than they did at their college tasks. "Now we are playing for keeps," they say, and mean it.

This spirit of dedication is sensed in the urgency that permeates the classes conducted by industry. At one moment the men are in the factory, facing problems, hearing complaints, adjusting difficulties, explaining, instructing, and smoothing out maladjustments as best they can. The next moment they are in the classroom, listening to the experience of their co-workers, discussing and analyzing counterparts of the very situations that they faced earlier in the day and will almost immediately face again. From an experienced instructor, they receive constructive criticism and helpful suggestions, and learn of new techniques constantly emerging from study and research. This is vital education indeed, a blend of learning, applying, reporting, and relearning that plumbs the very depths of reality on the one hand and, on the other, reaches out for the new and improved as revealed by experiment and research. No artificial motivation is necessary—the daily work life supplies it; and no distant use of knowledge gained need be envisaged—it will probably be needed that very afternoon.

Then again, in college the objective of one's studies is seldom immediate utility. Presumably, what is taught is useful, but this is a by-product of broader concepts —the development of an understanding mind, the creation of an effective personality, or the acquisition of the basic knowledge of a profession. In industry the immediate objective is invariably utility—perhaps the most effective methods of management, the most approved process of production, or just the best way of getting along with co-workers. Of course even the most functional instruction may carry the student far beyond the limits of knowledge immediately applicable to a given situation. Mathematics is a prerequisite for handling business machines in almost any capacity, a study of petroleum can hardly escape beginning somewhere within the area of economic geography, and certainly anything learned about human relations is applicable far beyond the confines of a single organization. Nevertheless, these broader concepts are usually adjuncts, not ends in themselves.

Finally, the philosophy of education within industry is definitely pragmatic. Does it work? If so, improve it; if not, stop it. And there are ways of finding out seldom available to the university instructor. One example will have to suffice. The training department of one corporation found that the executives spent an average of four to five hours a day in reading, including the time spent both in and out of business. Much time could be saved, it was thought, if the executives could learn to read faster. A course in reading improvement was organized. Tests showed that those who participated in the course started with an average reading speed of 243 words a minute and a comprehension score of 65 per cent. Subsequent tests, at the end of the course, indicated that the average reading speed had advanced to 459 words per minute, with no decrease in comprehension. This looked like an improvement of over 89 per cent, or a saving of over two hours a day. The course was continued, and so were the tests. After an interval of three years, over half of those who had participated in the first course were retested; 50 per cent were found to be reading even more rapidly than they had at the completion of the course. However, the average for this particular group, after three years, had dropped from 403 words a minute to 392. Even so, this group had started the course reading only 226 words a minute; an improvement was indicated, therefore, of 78 per cent, and it seemed to be permanent. The training department still has some reservations. Tests will be continued, but results to date warrant going on with the course.

The philosophy of pragmatism, furthermore, permits many procedures that have not yet attained widespread academic respectability. The teaching of creative thinking is a case in point. This, in short, is simply training people to think up new ideas. The theory is advanced that of the two main kinds of thinking—judicial and creative—the former constitutes a large part of formal education and grows with experience, while the latter is neglected and atrophies with nonuse. Industry has gone about correcting this neglect. In one company 500 students graduated from a course of this kind in 1955; in another, 1400 students completed such training in 1956. Of the ten largest corporations in the country, nine offer this sort of instruction in one form or another. In 1955 one company reported that 400 graduates of its creative engineering program had developed new processes and patentable ideas at an average rate nearly three times that of its nongraduates. Another company has authorized the statement that after twelve sessions the students showed an average improvement of 79 per cent in their flow of ideas. Others report similar results. The scheme works, and many industrialists hope that the hesitant colleges and universities will one day catch up with it.

A NEW EDUCATIONAL FORCE

Two great educational innovations of an institutional nature have helped shape the civilization in which we live. The first had its beginning in the latter part of the thirteenth century, when groups of teachers, scholars, or both banded together in the form of medieval guilds to secure mutual protection and unmolested seclusion in the pursuit of knowledge. Thus were inaugurated the first permanent organizations for the transmission of learning. The second was the establishment of the American free public-school system, accomplished, in principle at least, at the close of the second quar-

ter of the nineteenth century. From the first has evolved the modern university; from the second, the conception of universal education, supported by the people and free from both the taint of charity and the influence of selfish interests.

The authors believe that we are now witnessing in the educational activities of American industry the birth of a third educational force of far-reaching consequences. For, just as the first has perpetuated learning, and the second has provided the bulwark of democracy and a free economy, so this third innovation is adapting civilization to a new technological era, the ultimate consequences of which stagger the imagination. Nor is this merely an adjustment to mechanical wonders; it is an integration of new technical skills with revitalized human relationships, envisaging a world augmented not only in material comforts but in spiritual values as well.

The Educational Leader and Intergroup Relations*

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With earth satellites wending their portentous ways across the sky, some watch in pride, some in wonder, many in fear. Again it has been demonstrated that intercultural and interracial conflicts, prejudices, and discriminatory practices represent a form of self-indulgence no one can continue to tolerate. However, more than "tolerance" is needed; deep and mutual understanding and acceptance are essential. Such is the educational challenge of today.

BELIEFS TO BUILD ON

There are certain basic assumptions, among them the beliefs that:

Every man has dignity as a free moral agent if he affirms in his own personal choice the covenant that makes the common life possible.

Every man has dignity as a worker if he gives his life in service that makes the common life actual.

Justice affirms every man's right to be respected as a man, as an end in himself, never as a mere means to others' ends.

Love affirms every man's destiny to find life for himself only as he gives life in service to the whole community.

Democracy has meaning only in so far as that kind of love forms its motive and that kind of justice its goal.[1]

The central concern of this discussion will be to consider the educator as a person in his role, influential or impotent, in development of the community. Second, what is required for effective social action against the forces of prejudice and hatred? Segregation and discrimination bring into bold relief a general problem of man's relations with man. Finally, what part can the educator play in dealing with human relations which lead directly to more serious problems in local, national and world affairs?

Dr. Eric Mosse[2] tells a poignant story with an application for intergroup relations. He was walking through Central Park late one afternoon. It had been raining, and through the mist he could see an old man bending down to a sparrow. For a moment it seemed as if the two were conversing. The old man's beard was ragged and unkempt. He wore shabby clothes and high rubber boots; his entire appearance was that of those disturbed and lonely persons one occasionally sees feeding the squirrels and pigeons. Here, however, something seemed different. This man's whole body was bent so far that his old head almost touched the earth. There was a strange smile on his wrinkled face and the humble gesture made him seem like a mod-

* An address before the conference on Human Relations Education, Rhode Island College of Education, November 8, 1957.

[1] Gregory Vlastos, *Christian Faith and Democracy* (New York, Association Press), p. 26.

[2] Eric P. Mosse, *The Conquest of Loneliness.* (New York, Random House, 1957), pp. 240-41.

ern Saint Francis. A little boy of about eight stood a few feet from him. He was dressed in a cowboy suit, a pistol in his broad leather belt. He delighted in "shooting" and "killing" in a playful way. His hand on his pistol, he apparently debated for a moment whether or not to shoot at the man. Something evidently made him decide not to, and he stood there, silent and a bit tense. Finally he walked toward the stranger slowly and shyly and bent down beside him. After a few seconds the bird fluttered away. It began to rain again and the last Dr. Mosse could make out through the fine drizzle was the picture of the two standing together engaged in conversation.

It is rather easy in thinking of intergroup relations to consider only the Negro or the Jew. Let us not forget to include our inadequate relations with the Russians, the people of India, the Arabs and with the child, the panorama of his world's values and beliefs, his growing insecurity, fear, and uncertainty. In the midst of plenty, boundless opportunity, and the glorious promise of the wonder-filled future, today's fear, insecurity and despair can tomorrow destroy the five-year-olds, the eight-year-olds, and the ten-year-olds who are growing up in our schools and homes. Beaumont, Clinton, Sturgis, and Little Rock will be history then. Are we, as educators, prepared to write tomorrow's history with today's education?

STATUS OF THE TEACHER

What kinds of individuals are the classroom teacher, the administrator, the specialist, and numerous others who hold educational jobs and who are to meet the challenge of education for intergroup living?

The large majority of these men and women are dedicated people. They have diffuse but very real resentments and difficulties. They soon recognize that not only will teachers be underpaid but they will be, even in their own profession, second-class citizens. Teachers often believe monetary rewards and prestige will go to those in administrative and supervisory positions only. That half of the young men teachers will want to get administrative jobs is as startling as it would be if half of the young doctors wanted to become hospital administrators or half of the young actors wanted to become talent agency executives.

EDUCATION AND TEACHING

We may assume that to be an educator is to teach. This, however, is not necessarily true. In fact today the teacher in the classroom is continually reminded of the importance of submitting promptly his requisitions, of budgets, maintaining records, sitting on committees which are often perceived as non-productive, and wherever possible of providing demonstrations of the unique contributions of his field or department, institution or community. He pores over endless schedules, building plans, curriculum studies and reports. Frequently he finds he has had only a rare glimpse of the student as a person. The teacher who maintains that his first responsibility is to teach and to support the growth and development of each student as a citizen of dignity and worth frequently feels that his principles are lost in the shuffle.

EDUCATION FOR WHAT?

Too many students who plan to teach are anxious to collect course credits because the communities they will eventually serve will not pay them enough to live on unless they have degrees. This incentive, which many of the critics of

modern education have helped to instigate, cannot possibly develop an attitude of concern for students as individuals, or zeal for the proper study of mankind and of his world. As long as the community regards the teacher as a second-rate citizen, and makes him complacent by giving him "thirty pieces of silver," educational leadership cannot be expected to demonstrate the proper concern for the dignity and rights of people of all races and religious beliefs.

Pre-service and in-service teachers are frequently cowed and feel confused and resentful at a society which saddles them with blame for all the delinquency, lack of values, inability to think and illiteracy of young people; a society which, at the same time, provides very few means to avert those deficiencies. It is time that the responsibilities of the total society be examined. We must look especially at the responsibility of the press, radio, and television which, with noteworthy freedom in our democracy, have been able to take pot shots at the teachers, the schools and education, yet are free from blame for the consequences of their cute and supposedly insightful observations. Where educators have side-stepped the issues they should be held accountable. But educators in general should not be made whipping boys for a total community.

Members of an adolescent group participating in a research study, complained that their parents were so busy with community committees to improve education and prevent delinquency that they had no time to talk with or to help their own children with special problems of growing up.

There are relatively few teachers who really regret the abolition of corporal punishment, the integration of Negroes and white people, or even the adulteration of teaching and learning with activities which some believe would be more appropriately pursued outside the school —in the family or community center. However, teachers are not psychiatrists, policemen, prison wardens or entertainers. If society lets a child's family live in a slum, if the father forms his opinions from the irresponsible editorials of a half-informed or biased press, if parents are required to carry two full-time jobs in order to pay for the color television set, then that child's teacher is likely to feel that it is a little excessive for the school authorities to expect him to teach the child algebra, build his character and develop his citizenship all at the same time.

Adequate salaries or increased respect will not alone provide the panacea. They do represent in a way the influence "educational leaders" have in many American communities. Thoughtful educational leaders ponder what they or we can expect the schools to do about the critical problems of intergroup relations.

SCIENCE AND SENSE

The Sputniks would hold promise, not threat, if we lived in One World. If the critics of the modern schools would study the facts they would find that teachers and administrators have fought for the freedom of all men in the South, North, East and West often with real jeopardy, while many of the critics themselves have taken advantage of political asylum.

During the past year thoughtful men have at one moment pointed to statistical evidence which indicates that Negroes can never be as intelligent or read as well as white people and almost at the same moment others offer evidence that they can. I happen to believe the evidence that, given the proper opportunities to develop, Negroes can and will compare favorably with white people.

Today the voice of basic science is

raised in protest against the modern school and in favor of strong educational disciplines such as science. Science is suddenly important because of our inability as civilized men and women to resolve our discriminatory practices. The Russians refuse to live with us and we refuse to live with them. The issue was the same when men fought with bows and arrows. If Negroes were proved intelligent, cultured, and productive beyond a shadow of a doubt, we would still have the same basic intergroup relations problems to deal with.

Now what is required for effective community action? Until people of different races and creeds can and want to live together in the same neighborhood or multiple-dwelling, there is little hope of achieving true desegregation in the community. However, desegregation in housing cannot really be achieved or maintained through legislation any more than we can by force facilitate any other social change which the public is unable to accept.

A growing body of social science research suggests certain principles upon which effective social action may need to be built.[3] These studies indicate that direct social contact of people of different races will be effective in reducing discriminatory attitudes and acts only if people are able to exchange or share social attitudes. This sharing may not, in fact need not, be communicated verbally or explicitly. The ability and capacity for attitudinal changes will be evidenced in the behavior of the persons involved.

Recent social science research has also indicated that we are effective in communicating an attitude only when the other aspects of the relationship between the persons involved are supportive of continued interaction and mutual acceptance; that is, in interpersonal relations, power relationships, and the like. A community or group of people held together by a common commitment to a range of shared interests in community needs and activities, and who carry on communication about their attitudes and opinions on these matters and wherein they differ, will have achieved the conditions for attitude change with respect to minority groups when these are present.

EDUCATION IN ACTION

Finally, interpersonal and intergroup contacts will apparently not be effective in changing attitudes of members of one race toward the members of another race or religious belief, if they merely talk about this aspect of their relationship. In short, it requires more than fine words and the exhortations of democratic platitudes to teach us how to behave differently in these relationships. What, then, is basically required for effective social action against the forces of prejudice and hatred?

Let us consider what the educator can do when confronted with problems of intergroup relations either as teacher in the classroom, or as a citizen with a special role in the community. There are two parts to this issue: first, some principles of re-education the educator may use when confronted with discriminatory attitudes; second, some action steps available for work with students or the public in dealing with such problems.

The re-educative process must affect the individual in three ways.[4] It must change the way he sees the physical and

[3] Leon Festinger and Harold Kelley, *Changing Attitudes Through Social Contact* (Ann Arbor, University of Michigan Press, 1951), pp. 69-75.

[4] Kenneth D. Benne and Bozidar Muntyan, *Human Relations and Curriculum Change* (New York, Dryden Press, 1951), pp. 25-61.

social worlds, including all of the facts, concepts, beliefs, and expectations. It must modify his attractions and aversions to groups and group standards, his feelings in regard to status differences, and his reactions to sources of approval or disapproval. Furthermore, it must affect his motoric action, that is, it must involve the degree of the individual's control over his physical and social world and movements. To accept the fundamental nature of these characteristics of the process one must also recognize the existence of certain conditions.[8]

1. The processes governing the acquisition of normal or abnormal behavior or attitudes are much alike.

2. The re-educative process has to fulfill a task which is essentially equivalent to a change in culture.

3. Even extensive firsthand experience does not automatically create correct attitudes, concepts, or knowledge.

4. In any situation we cannot help but act according to what we perceive; and our perception extends to two different aspects of this field. One has to do with facts, the other with values.

5. As a rule, the possession of correct knowledge does not suffice to rectify false perceptions.

6. Incorrect stereotypes (prejudices) are functionally equivalent to wrong concepts (theories). They are not accidents.

7. Changes in sentiments do not necessarily follow changes in cognitive structure (how we think).

8. A change in action-ideology requires genuine acceptance of a changed set of facts and values and a change in the perceived social world.

9. Acceptance of a new set of values and beliefs cannot usually be brought about item by item. Hostility must be changed to open-mindedness and friendliness to the new culture as a whole, and this must precede conversion in any single item of the re-educative process.

10. Finally, the individual accepts the new system of values and beliefs by accepting belongingness to a new group.

An able young Negro student in Little Rock was interviewed by a reporter before the Federal troops were placed on guard duty in that city. He stated that the looks on the faces of the civilians and Arkansas Guardsmen were so hostile that they figuratively bowled him over. Segregation and discrimination are products of a field of forces which can be modified only by reducing or removing forces, strengthening or adding forces, or changing the direction of the forces. Whether in the classroom, on main street, or in the town hall, the educator must determine which forces it will be possible and strategic to modify in dealing with prejudice. He must decide, in terms of his role and his influence, whether there are some forces whose direction can be reversed. He must decide which opposing forces, in his setting, can be reduced or augmented with a minimum of coercion. Whatever we do, we must be certain that the planned change will have the elements of reasonable stability.

THE WOODS THINNED OUT

An attempt has been made in this discussion to indicate a scheme which will emphasize the relationship between the educator and his publics as a dynamic pattern. As an aid to thinking about this relationship it may be helpful to remember that:

[8] Kurt Lewin and Paul Grabbe, "Conduct, Knowledge and Acceptance of New Values," *The Journal of Social Issues*, 1:53-64, August 1945.

1. The existence of each individual may be seen as a continual struggle to satisfy needs, relieve tensions, maintain equilibrium.

2. Most needs in our culture are satisfied through relationships with other individuals or groups.

3. For any individual the process of employing his relationship with other individuals to satisfy his needs is an active rather than a passive process.

John Hersey concludes his book *The Wall* with this statement:

> At first we were in a second growth, full of thickets, tangled with vines; then for a little time we were among older trees that climbed far above us, while underfoot there were tender ferns and delicate grasses. Again we came in thicker undergrowth among smaller trees, and the canopy over us became torn here and there; we saw the sky; the woods thinned out, and we were among bushes and clumped grasses. We moved forward, the footing became irregular. We entered some swamps. For a while we could step from hummock to hummock, but later we had to wade, until at last we were up to our hips in water and mud—but how clean! Beyond the swamp we climbed once more onto higher wooded ground.[6]

This may well be a description of the changing role and process of the educator in dealing with intergroup relations.

[6] John Hersey, *The Wall* (New York, Alfred Knopf, 1950), p. 632.

Television and Education: A Critical Analysis*

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DURING the past six years a total of more than $60,000,000 was spent for the purpose of assaying and promoting educational television. The Fund for the Advancement of Education alone, under the giant Ford Foundation, has allocated some $23,000,000 for purposes of sponsoring a variety of experiments with television as a medium of instruction at the elementary, secondary, and collegiate levels of education. In this connection, a number of colleges and universities have been offering both on-campus and off-campus courses for academic credit via closed- and open-circuit television.

Various progress reports stemming from these investigations appear to indicate that students learn just as effectively through television as they do through the conventional classroom situation. In other words, these studies seem to identify no significant differences in learning achievement between the experimental or television groups and the control groups. In a few instances the announced findings of certain experiments have gone so far as to favor somewhat the medium of television over the usual classroom methods. There are, however, some very serious reasons for challenging the tenability of these findings. Despite these reservations, there are some educators whose imaginations have been fired to the point that they are able to view the potential development of educational television with the most remarkable optimism. In the words of Dr. Thomas Clark Pollock, Dean of the Washington Square College of Arts and Sciences at New York University:

> It now seems clear that television offers the greatest opportunity for the advancement of education since the introduction of printing by movable type. This comparison is made soberly.[1]

While all this may sound promising and exciting to the cursory observer, one should bear in mind that the advent of the motion picture and radio also brought vivid promises of a revolutionized educational program at all levels of instruction.

The Fund for the Advancement of Education is now serving as a great financial bulwark for experimentation with television as a medium of education. Moreover, under the sponsorship of the Fund, Dr. Alexander J. Stoddard has made an investigation and has blueprinted

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[1] As quoted by Alexander J. Stoddard in *Schools for Tomorrow: An Educator's Blueprint* (New York, The Fund for the Advancement of Education, 1957), p. 27.

a report on educational television. Discounting all fears that television in education endangers the teacher's job, Stoddard writes:

> Already there are those who talk of television in education as putting teachers out of jobs. Is it likely that multiplying means of communication will make teachers less necessary? It should enhance their importance. One purpose of television is to help enrich teaching—to bring something worth while into the classroom or school that might not be possible otherwise.[2]

Although Stoddard's statement may sound quite reasonable, he makes what appears to be a contradiction to the above premise by proposing a plan whereby the use of television in classroom instruction would abrogate a sizable number of teaching positions. At the elementary school level, Dr. Stoddard's plan involves a rotational system whereby half the youngsters would be subjected to television for one half of each school day, under the watchful eyes of nonprofessional monitors, while the other half of the pupils would participate in regular class activities, under the guidance of a certified teacher. The schedules would then be reversed for the remaining half of the school day, effecting a real economy in the number of professional teacher personnel required to man the classrooms. In the words of Stoddard:

> While too much in savings cannot be claimed for the plan until experience demonstrates its possibilities along this line, it is rather obvious that some teaching positions could be absorbed in this way. If a net of only two positions were eliminated in a school, and it is evident that at least this could result, possibly some two hundred positions could be absorbed in a city of 500,000 population. This number could accumulate to more than 50,000 throughout the country, even eliminating many small school organizations in which the plan might not be practicable.[3]

At the junior and senior high school levels, Dr. Stoddard proposes a design whereby one head teacher and a nonprofessional assistant would handle from 500 to 600 students in two subject areas, where normally four teachers would be required. The regular classroom teacher, under this plan, would precede and follow the telecast with supplemental instruction. Here again Dr. Stoddard describes this plan as effecting a reduction in the number of trained teaching personnel required in our secondary schools:

> Assuming that even six teaching positions might be saved in the usual junior or senior high school, the number would mount rapidly in a whole school system. In a city of 500,000 population, possibly as many as or more than 150 teaching positions might be absorbed. In the country as a whole, more than 50,000 positions could be involved. It is thrilling to contemplate what could be done to improve the profession of teaching, to raise the level of school efficiency, to provide badly needed augmented services for young people in the schools, with approximately $500,000,000 that would be involved in the absorbed positions at all school levels! It would make possible the use of television everywhere in schools, meeting both the equipment and program costs involved.[4]

It is difficult to follow Dr. Stoddard's reasoning as to how the elimination of 100,000 teaching positions at the elementary and secondary levels throughout the United States could be translated as "a program for improving the profession of teaching." Dr. Stoddard has gone so far as to point out that all this economy in professional teacher personnel could offset the required equipment and program costs of educational television for our elementary and secondary schools. The question remains, however, Are the edu-

[2] *Ibid.*, p. 30.

[3] *Ibid.*, p. 47.

[4] *Ibid.*, pp. 50-51.

cational advantages of television sufficiently great that our nation could afford the elimination of 100,000 live teaching positions? Moreover, in the event that television as a medium of instruction should, in itself, offer no highly significant advantages over conventional classroom procedures, we must raise some serious doubts as to whether such conversion to television can be justified as a possible solution to the growing teacher shortage. Surely, there are other ways of solving the crucial teacher shortage—including the raising of salaries, the lightening of teaching loads, and the improvement of general teaching conditions and teacher personnel policies in the schools of our nation.

Let us examine more closely the bases upon which Dr. Stoddard and Dr. Pollock view the future of educational television. As emphasized earlier in this discussion, preliminary findings of experimental studies with television as a medium of instruction reveal no significant differences between the experimental or television groups and the control groups in subject-matter knowledge. The findings of one university study, financed by a grant of more than $135,000 from the Fund for the Advancement of Education, reveal that students prefer conventional small-class instruction to either television or large-class instruction.[8] Moreover, this investigation reported that the major cause of student dissatisfaction with television as an instructional medium was the lack of student–instructor contact. The series of experiments indicated that this lack of student–instructor contact was regarded as a more serious defect of television classes than even large enrollment classes. To add fuel to the fire, it was discovered that students in the television classes tended to become increasingly disenchanted with this instructional medium as the semester progressed, with virtually all shifts of opinion occurring in a negative direction. Moreover, student ratings of the course reveal that the perceived significance of the course content is significantly higher for the conventional classroom or control group than for the television or large enrollment groups.

With these significant attitudinal differences toward television and conventional small enrollment classes, how can one explain the lack of significant differences in subject-matter achievement as measured by objective examinations? We do not know the answer. Until more experimental studies are made, we can only hypothesize at this point. To begin with, we must emphasize that, until now, most investigations concerning "learning effectiveness" via television as contrasted with traditional classroom situations are designed to measure the knowledge of subject matter. Many educators would hasten to point out, however, that subject-matter knowledge is only one type of learning, and that it may be relatively insignificant in its most measurable form. Other types of learning include changes in behavior, capacity for critical or reflective thinking, growth in certain appreciations, creative developments, desire for exploration and discovery of new knowledge, and so forth.

Mastery of subject matter as evinced through comparative scores on objective paper and pencil tests constitutes, at best, only one small dimension of the educative process. Can the student apply his learnings to life situations? Is he able to gather and weigh evidence objectively, make relevant assumptions and hypotheses, and draw valid conclusions

[8] See *Experimental Study* in *Instructional Procedures, Progress Report* (Oxford, Ohio, Miami University, 1956), 48 pp.

in solving important problems? What motivational forces catalyzed through the teaching–learning process are manifested in later years, as the individual fulfills his role as a responsible citizen in a free society? What cultural interests and appreciations does he tend to develop after the formal educative process is completed? While these and many other questions are much more difficult to assay than subject-matter retention, further experimental work should throw some needed light on various modes and media of instruction.

In view of the limited experimental findings to date, along with the tentative nature of these findings, it would seem reasonable to refrain from becoming overly optimistic about the sweeping possibilities of television as a device to absorb 100,000 teaching positions in our elementary and secondary schools alone, not to mention our colleges and universities. Furthermore, the judicious observer is compelled to raise many other serious questions regarding the technical aspects of the experimental designs in comparing television with conventional classroom teaching procedures. The careful researcher knows that in an experiment, insofar as possible, there must be no disparity of uncontrolled variable factors between the experimental and control groups. Scientists have known for some time that the psychological benefits from being cognizant of one's membership in an experimental group can be sufficiently significant to invalidate the entire experiment. Homans emphasizes that workers in factory experiments have explained their increased rate of productivity in the test room—without any conscious effort on their part—on the grounds that "it was fun to work in the test room." To these workers, it even seemed easier to produce at the faster rate in the test room than at the slower rate in the regular department. As Homans points out, the awareness of participating in an important experiment constitutes, in itself, a significant variable in the research:

> The operators knew that they were taking part in what was considered an important and interesting experiment. They knew that their work was expected to produce results—they were not sure what results—which would lead to the improvement of the working conditions of their fellow employees. They knew that the eyes of the company were upon them.[6]

To a far greater extent than in the factory studies, the participants in the television experiments are aware that the spotlight is shining upon them. They are the focus of an experiment which is important, interesting, and dramatic. During the course of these studies, the participants soon find numerous illustrated magazine and newspaper articles concerning this experimentation with television as a medium of instruction. It would be reasonable to assume that this factor could alter significantly the results of the experiment by acting as a stimulus for the experimental or television group. The control group, on the other hand, do not experience the glamor, excitement, and attention which the experimental group enjoy. One method of counteracting this added stimulus would be to involve the experimental group in a sustained, long-range program whereby television as a medium of instruction becomes relatively commonplace to the participants. After from two to four years of course work entirely via the television medium, more accurate results could be secured.

[6] George Caspar Homans, "Group Factors in Worker Productivity," *Readings in Social Psychology* (New York, Henry Holt and Company, 1952), p. 640.

It should be emphasized that negative student attitudes toward television as a medium of instruction cannot be assumed to counteract the stimulus of membership in an important and highly publicized experimental group. A long-range experiment, however, would tend to buffer the psychological effects of the experimental stimulus. Unfortunately, the experimental work to date has been confined to a semester or an academic year only. Moreover, the members of the experimental groups simultaneously continue to pursue the major portion of their studies under conventional classroom conditions. In other words, these students are involved in the experiment only during a fraction of their day-to-day academic programs.

Another possible disparate variable worthy of mention is the effect of television on the teacher. The Miami University studies reveal that instructors utilizing television reported that this medium caused them to improve the quality of both their presentations and their organization of course content.[7] Although both the experimental and the control sections of each course are taught by the same instructor, it would seem reasonable to assume that the instructor is stimulated to a greater extent by the television medium than in the conventional classroom or control situation. Such stimulation might tend to be counterbalanced as this medium loses its experimental novelty. The added stimulation reported by instructors as causing them to improve their teaching organization and presentation for the medium of television may constitute an additional variable in favor of the experimental or television group.

[7] *Experimental Study in Instructional Procedures*, p. 23.

It is the contention of the writer that the tenability of these experimental findings is subject to question in view of the research designs. There appear to exist a number of disparate elements, other than the experimental factor, between the experimental and control groups. In these television experiments it is, of course, exceedingly difficult to ascertain the degree of uniformity of nonexperimental factors between the parallel groups (control and experimental). Nevertheless, such disparity can invalidate these studies by leaving us lacking in knowledge as to what can be controlled and gauged. Consequently, before we can jump to any far-reaching conclusions regarding the values of television as an instructional medium, further experimentation with adequate controls over salient nonexperimental factors is essential.

On the basis of the tentative and inconclusive findings from short-duration experiments with television as a medium of instruction, we must not allow ourselves to fall prey to hasty assumptions and conclusions. Before any blueprint for television in the schools of tomorrow can be developed, we must first know all the dimensions of this new medium of instruction. Although Dr. Stoddard emphasizes that "our profession must welcome, not resist, changes that may improve the quality and increase the quantity of education," we must guard ourselves against easy and superficial solutions. We cannot, as one leading industrial executive has advocated, conceive of education as being in competition with entertainment and commercial sponsorship. Even though education may be made most pleasurable and rewarding, it may never come to us along the path of least resistance. For, if we allow education to be diluted, homogenized, abased, and tran-

quilized, we may well be in danger of losing much that we have gained as a free people.

When one advocates the improvement of the means of communication, one must also be concerned with the purposes and goals for such communication. We have emphasized that television experiments to date have been largely involved with a single dimension of learning, namely the acquisition of subject matter. Our society must continually strive to improve our goals as well as our gadgets.

New Directions in Teacher Education Appraised*

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PAUL WOODRING'S *New Directions in Teacher Education* may be fairly described as an official account and defense of the work of the Fund for the Advancement of Education in the fields of teacher education and recruitment. Indeed its subtitle declares that it is an Interim Report of the Work of the Fund. That it is a defense will appear shortly. Dr. Woodring, we are told, was employed to conduct "a critical review," but he appears to have found little to criticize. That what he has written often reads like an advocate's brief is, however, no cause for complaint. The Fund's policies have been subjected to rather vigorous criticism, and its officers have been known to aver that they were the victims of misunderstanding. It is good for all concerned to have this detailed and authorized statement.

In his Foreword, Dr. Alvin C. Eurich, Fund vice-president, reports that since the organization was established by the Ford Foundation in 1951, it "has regarded teacher education as its most important area of concern," devoting more money to it than to all other interests put together. The total investment, over six years, is said to have been roughly $24,000,000. However, only a third of this amount is accounted for by the grants made to the twenty-five individual teacher-education programs reported on by Woodring.

Four categories of such programs are distinguished. By examining them a good idea can be obtained of what the Fund has considered "bold," "imaginative," and "new" enough—the adjectives are recurrently employed—to command subsidization.

More than five-eighths of the $8,000,000 accounted for has been invested in professional fifth-year programs for liberal arts graduates. More than $3,000,000 has gone to the archetype of these, that involving the University of Arkansas and fourteen cooperating colleges. The essence of these programs—others have been located at Temple, Cornell, Louisville, Goucher, Harvard, and, more recently, Bank Street, Johns Hopkins, and Yeshiva—has been fivefold: (1) those served have been liberal arts graduates without prior professional training; (2) the fifth year has included extensive classroom experience, usually through appointment to status as an apprentice or intern; (3) professional education, deemed essential, has been closely related to practical experience; (4) no general

* *New Directions in Teacher Education*, by Paul Woodring (New York, The Fund for the Advancement of Education, 1957), x + 142 pp. Free.

or advanced academic education is included during the fifth year; (5) scholarships amounting to as much as $2,450 have been provided, with a varyingly successful effort to shift in the direction of internship salaries paid by local school districts.

No professional educator will be surprised to learn that the close integration of theory and practice has proved generally satisfying, but that there have been difficulties in actually dovetailing the two, and in providing adequate supervision. Even with generous financial aid the recruiting of men—or, indeed, of either sex—for preparation for teaching in the elementary schools has been difficult. Arkansas has now abandoned its elementary program, Cornell reports it cannot continue without extended financial support, Bank Street and Goucher are cautious in their promises for the future. Harvard and Louisville seem to be shifting in the direction of encouraging some professional study at the undergraduate level. Yeshiva's program is barely under way, with $2,000 teaching fellowships. Programs for secondary school teaching appear to be faring better. Arkansas and Temple seem to have been quite successful in developing internship opportunities, with salaries attached. Johns Hopkins, like Yeshiva, has just begun.

Fifth-year programs designed for college graduates without prior professional education are not as new, either in idea or in practice, as Woodring appears to believe. Their value in enabling promising young people who were unable or unready to begin earlier professional preparation for teaching has been generally recognized. Professional educators have, however, been skeptical of claims that postponement of all professional studies until a graduate year was a superior arrangement for all prospective teachers. The outcomes of the Fund-supported projects considered above do not seem likely to convince them that they have been wrong. The advantages of supervised internships and of the close integration of professional study with professional experience they have, of course, long proclaimed. They will note with interest that Arkansas now requires, for prospective secondary teachers, a twelve-week summer session of professional work, followed by an acadamic year of full-time teaching under joint college–school supervision and with attendance at a weekly professional seminar, this further followed by a second summer session of professional or academic study, all crowned by a Master's degree; and that Arkansas has, as already noted, reinstalled a fully undergraduate program of preparation for elementary teachers. The impact of experience seems to have reduced the sharp-break-with-the-past elements in the Arkansas program.

Woodring's second category of Fund-supported programs includes four specializing in offering professional fifth-year education for older liberal arts graduates. To these, all in California (at Claremont, San Diego, San Francisco, and the University of Southern California), the Fund has contributed a tenth of its $8,000,000. The programs were particularly designed to cope with a serious shortage of teachers, the chief emphasis being on the elementary schools. While varying somewhat in certain respects, all four have required a summer's attendance at college, followed by a year of internship under local supervision and with simultaneous participation in a professional seminar. Scholarship aid and/or internship salaries have been provided. Participants in the programs have been

enabled to meet certification requirements, but have not been awarded degrees. Although response to the opportunities thus provided has apparently fallen short of original expectations, a not inconsiderable number of excellent teachers are reported to have been produced by them, and two of the programs are expected to be continued.

Professional educators will have little doubt of the desirability of experimental efforts to attract mature, well-educated persons into teaching by way of properly selective and suitably designed programs of professional education. But they will believe that the chief source of new teachers must continue to be young people who have reached their vocational decisions while still undergraduates, if not, indeed, before. And they will further be apt to consider that such young people should not be denied all opportunity to take a look at their contemplated profession until after graduation from college. Although Woodring seems to be worried by teacher-education programs in which professional courses are available to undergraduates—he can scarcely mention them without warning that the liberal arts must not be allowed to be "vitiated" or "emasculated"—the Fund has supported two types thereof. These constitute Woodring's last two categories.

The "Master of Arts in Teaching" category includes programs in which professional courses are sometimes begun in the junior year, and academic courses are always included in the post-baccalaureate experience. Such programs have been supported at Harvard (which has developed cooperative relations, in this connection, with twenty-nine liberal arts colleges), at Yale (which has suffered from recruiting difficulties but hopes for improvement now that Harvard has authorized its sister institution to hunt in its special preserves), at Vanderbilt (originally, but no longer, jointly with Peabody), and, beginning just last fall, at Brown. A sixth or more of the $8,000,000 has been channeled in these directions. The programs are intended chiefly for secondary teachers, and thus emphasize development of a teaching subject-matter concentration, often including academic courses newly designed to be of special value to prospective high-school instructors. While student-teaching and other direct experiences in the schools are provided, these are much less extensive than in the Arkansas type of fifth-year program. Scholarship provisions have been generous: Yale pays up to $2,000.

The Harvard program appears to have been most successful. Yale announces that continuation is doubtful when its $450,000 runs out, unless further subsidization can be found. The Vanderbilt–Peabody program, which never included an undergraduate element, has ended, but both institutions are continuing separate fifth-year programs—Vanderbilt, which finds it "still necessary to go outside the institution to Peabody College for some courses," with further Fund support. Brown, whose plan also includes in-service and research activities, has barely had time to get off the ground.

Professional educators will find much in this category of programs with which they can agree enthusiastically in principle, notably the commitment to a truly integrated five-year program and the development of academic courses keyed to prospective teaching needs. Dr. Woodring considers it one of their strengths that they have been "jointly planned by faculties of education and faculties of the arts and sciences," with resulting reconciliation of differences between these groups. Gratification at this achievement is tempered by certain indications that

the professional educators involved have done a major part of the concession-making. It may be noted, for example, that the undergraduate professional courses at Yale are in charge of professors of philosophy and psychology, not of education. But more revealing are some of Dr. Woodring's statements, which will be referred to later.

Actually a look at the final category of Fund-supported projects will also raise some doubts as to the role of professors of education. Here are grouped the "4-year [i.e., wholly undergraduate] programs combining professional with liberal education." There are only four of these, and they have not commanded much investment: only 1.5 per cent of the $8,000,000 total, to be precise. They seem to have little in common except a determination to keep control in the hands of nonprofessionals. Swarthmore got $15,000 "to enable . . . students to qualify at the end of four years of undergraduate work for Pennsylvania state certification without diluting the college's liberal arts program. . . . The grant was for too short a time to allow much freedom for experimentation." Carleton received $10,800 to support "a seminar open to liberal arts professors . . . under the chairmanship of a visiting professor from a teachers college"—Dr. Woodring, as a matter of fact, though he modestly suppresses this piece of intelligence. Wilson, with $27,870, set up "a program which demonstrates that knowledge and understanding of the liberal arts and sciences is [sic] sound preparation for professional work in education and that with a minimum of experience with elementary school situations and a thorough intensive study of basic principles of learning, a student in a liberal arts program can, with effective guidance, successfully enter work as an elementary school teacher upon completion of a four-year college course." Barnard is spending $67,500 on a colloquium which, while "not a complete program of teacher education . . . [is considered to be] a unique approach to the problem of introducing future teachers to a wide variety of points of view in education." (Of the six "outstanding figures" whom Woodring selects to name as having participated in this enterprise, only one—W. H. Kilpatrick—is classifiable as a "professional educator.")

The picture, now completed, of the programs of teacher education which the Fund has found worthy of support may have suggested certain biases to the reader. In his Foreword, Dr. Eurich asserts that "the directors and officers of the Fund did not have in 1951 nor do they have today a specific program of teacher education. Rather they have been interested in supporting a wide variety of explorations, experiments, and new ideas." Woodring makes it perfectly clear, however, that the Fund has acted on certain definite convictions.

The Fund has found itself faced by two distinct traditions of teacher education in the United States, we are told. The older one "provides the basis for what may be called the academic or liberal arts view of teacher education." It "holds that *formal* education is properly centered in the world of knowledge and is concerned with the development of the mind. The newer traditions [to which the "professional educator" is in thrall] prefer to place the stress upon the 'whole child.' It [sic] places great emphasis upon the learning process and interprets this process in a way which extends it far beyond academic or intellectual learning."

Now it might innocently be supposed that some rapprochement between the partisans of these two traditions—one

stemming from the colleges of liberal arts, the other from the normal schools and teachers colleges—would be possible. Woodring's assurance that "the new programs have brought together professional educators and liberal arts faculties for the mutual discussion of the problems of teacher education and have thereby contributed to a reconciliation of the conflicts between the two groups" would incline one to believe that he would agree. Yet he declares flatly that "the two traditions represent totally different concepts of the nature of man, of the learning process, and of the proper role and limitations of free public schools." How can "totally different concepts" possibly be reconciled?

Obviously they cannot. But if the professional educators would only adopt the liberal arts tradition, then the conflicts between the two groups could as obviously be resolved. This, it is pretty clear, is what Dr. Woodring and the Fund would like to see happen. For although Woodring is courteous and unpolemical, there can be no doubt where his loyalties lie.

Let us look at a few bits of evidence. Woodring is rarely able to mention professional courses in education, of pre-Fund vintage, without recalling that they are "alleged" to be "lacking in content, subject to much duplication and [to] have proliferated unnecessarily." "Perhaps," he suggests, the solution is to have such potentially "substantial" subjects as the history of education, educational philosophy, and educational psychology taught "as a part of liberal education" by *general* historians, philosophers, and psychologists—as distinct from "professional educators." As to skills, they can best be learned through "an extended period of practice teaching." This had really best be in a fifth year lest "the time available for liberal education . . . [be] substantially reduced." Moreover, "the public schools should play a larger part than they have in the preparation of teachers. . . . They are closer to the problems than are the schools of education. . . . It may be that, in time, much of the responsibility for the intern year [read "practice teaching" generally] will be transferred from the colleges to the public schools." All this would seem to narrow the field of legitimate usefulness of the "professional educator" quite a bit.

Woodring is, of course, delighted that the teachers colleges "are rapidly becoming general colleges . . . in which only a fraction of the students are preparing to become teachers." They increasingly hire as faculty members those "who hold Ph.D. degrees from universities and whose professional commitment is to an academic discipline rather than to education as a profession." Woodring suggests that the Fund pay more attention to assisting such institutions "in providing better liberal arts programs and in reorganizing their professional courses in such a way as to eliminate proliferation and duplication." Teachers college presidents are virtually invited to show "willingness to attack these problems vigorously," and to submit "imaginative proposals for Fund assistance."

Something should now be said regarding Dr. Woodring's two concluding chapters, and space reserved for a final personal comment.

Evaluation of educational programs, Dr. Woodring correctly states, is difficult. It is apt to depend on what the evaluator values. He himself has concluded that the Fund's $8,000,000 to $24,000,000 investment has: (1) "increased interest in the problems of teacher education"; (2) provided "a considerable number of teachers . . . for the public schools"; (3)

"opened up new areas for experimentation and . . . broken down some of the barriers to changes in teacher education"; and (4) "brought together professional educators and liberal arts faculties. . . ." The first three judgments are probably sound—though the magnitudes involved are certainly subject to speculation. Doubts as to the last have already been suggested. Woodring concludes that the Fund's "over-all influence" has been "impressive in its dimensions."

When Dr. Woodring takes a "look ahead," it turns out, happily, that he can foresee "the main stream of teacher education in the United States by 1965 or 1970" characterized by "some or all" of the features that the Fund has been backing: (1) "a general or liberal education which is equal in both scope and depth to that represented by a liberal arts degree from a good college"; (2) replacement of "proliferated undergraduate professional courses . . . by a maximum of two or three introductory courses in educational psychology, education [sic] philosophy, and the school as a social institution . . . [which] will not be narrowly professional and may be taught by philosophers, psychologists, or social scientists . . ."; (3) the early *requirement* in all states of "some kind of a fifth year of preparation," with paid internship a major element; (4) internship experience for all "as a member of a teaching team [Woodring is particularly enthusiastic about the teaching team concept], and as a classroom teacher in a schoolroom receiving television instruction"; (5) "special training courses, at the post-Master's degree level, . . . for experienced teachers who wish to become team leaders or television instructors"; (6) shifting of "responsibility for supervision for the intern . . . from the college to the public schools"; and (7) better selection of "candidates for teacher training at the fifth-year level . . . than is possible when students are admitted into the program as college freshmen."

Dr. Woodring concludes his report with an identification of seven "unsolved problems" which he considers "should receive the major attention of a philanthropic organization devoted to the improvement of education and teaching." These are: (1) bridging the "deep chasm that separates the academic community from the professional educators"; (2) getting high-school and college teachers "to think of themselves as members of the same profession—even of the same team—" by providing them with similar kinds of preparation for teaching; (3) reform of state certification regulations, following "thorough going [sic] studies by committees made up of representatives of both professional and academic groups as well as representatives of the general public"; (4) re-examination of "the entire professional sequence at both undergraduate and graduate levels" in order to get rid of "duplication, proliferation, and lack of sharp definition"; (5) related reorganization of textbooks; (6) increasing the supply of "well-educated candidates for positions as instructors and professors of education, particularly for [sic; read "of"?] the kind who can work harmoniously with liberal arts faculties . . . [and who will be] qualified to teach educational philosophy effectively . . ."; and (7) programs of teacher education designed to provide teachers for the gifted. Here are useful tips for the "bold and imaginative" who would like to find a place in the Fund's golden sun.

It has seemed important to analyze Dr. Woodring's report at length, and I have made every effort to do so accurately and fairly. He, and the Fund, for which he patently speaks, deserve our thought-

ful attention. We can all agree that experimentation is desirable in teacher education, that controversy is nothing to be afraid of, and that the directors and officers of the Fund have both the right and the obligation to use their great powers as their minds and their consciences dictate. We should be grateful for so clear an exposition of their convictions, and so explicit a forecast of the directions in which they propose to press.

I myself, one bred in the liberal arts who became, out of passionate concern, a "professional educator," am not persuaded that representatives of Dr. Woodring's "two traditions" can get together only through virtual surrender by one party. I do not agree that the existing conflicts of opinion are rooted in irreconcilable philosophical differences: I believe they are, rather, fundamentally consequent upon differing angles of vision which might both be broadened by closer joint attention to the reality of children and school situations. I have myself seen such broadening occur.

I do not anticipate that anyone is going to be forced to surrender. Indeed, I hope we may all resist temptations to assume a belligerent posture. It would be a pity if we should become defensive rather than strive to respect, understand, and learn from one another.

REVIEWS

Colleges for Our Land and Time, The Land-Grant Idea in American Education, by Edward Danforth Eddy, Jr. New York, Harper and Brothers, 1956. xiv + 328 pp.

Mr. Eddy's *Colleges for Our Land and Time*, a sort of Horatio Alger story of the land-grant colleges, is loaded with fact. If one wishes to know the number of home demonstration agents employed in 1936, the number of books in selected land-grant college libraries in 1876, the date at which certain subjects entered the college curriculum, the 1948 budget for the Alaskan extension service, the number of students who, in 1870, contributed manual labor to Iowa State's farm, or any of several thousand additional facts, this book has the answers. For this reason alone, the student of the history of higher education in America can perhaps ill afford to ignore Mr. Eddy's book; and those who share the author's great enthusiasm for agricultural, home economics, engineering, and extension education will certainly not want to miss it.

Mr. Eddy has written a success story pure and simple. He carries us through the early efforts to establish the colleges (1863-1879), the shaping of the land-grant idea (1880-1899), the aquisition of form and substance (1900-1914), the response to crisis (1915-1937), and the period of rich maturity (1938-1956).

A final chapter on philosophy and conclusions, and a liberal sprinkling of personal responses and interpretation throughout the book, make it clear that Mr. Eddy is aware of some present shortcomings and future problems for the land-grant colleges. He notes, for example, the difficulty of providing both the immediate practical results needed to insure public support and, at the same time, opportunities for pure research. He is aware that the "people's college" can easily become a political arena in which the efforts of special interest groups run rampant. But we are left with a feeling of reassurance: the land-grant movement will not fail.

Unfortunately the author's enthusiasm leads him to distort seriously the picture of nineteenth and twentieth century educational reform. In this period educators at all levels and in all sorts of institutions discovered the language of the New Education. Many were affirming, and some were practicing, the principles that the "power of observation" rather than "rote memory" should be encouraged, that reasoned conclusions should replace blindly accepted faiths, that studies having intrinsic appeal to the students were more valuable than those perceived as "long since dead," and that the individual student rather than subject matter alone should be central in the teacher's thought. Among these educators were many in the land-grant movement. But to give the impression, as Mr. Eddy does, that these reforms were *primarily* an outgrowth of the land-grant movement is to distort.

In the same period agrarian reformers were operating in several areas—the U. S. Department of Agriculture, the farmers' press and organizations, and the common schools—to develop farm-youth movements. Important *among* these reformers were professors and administrators in the land-grant colleges. But while Mr. Eddy does not actually say that farm-youth movements are a blessing growing directly out of the land-grant colleges, one must read very carefully to escape this impression.

Officials in many colleges, private and

public, shared in the development of scientific education, coeducation, and the elective system. Mr. Eddy notes this as a matter of fact, but somehow he leads us to believe that only the land-grant colleges took these ventures seriously. Thus, "it remained for the land-grant colleges to give genuine acceptance to the notion (of coeducation)"; and the "scientific school" becomes synonymous with "land-grant college." In this last case Eddy even adds a parenthetical definition to a quotation by Noah Porter referring to the scientific schools (p. 72). Actually Porter did refer to the new land-grant colleges as scientific schools, but the precise examples cited by Porter just before the quotation which Eddy edited were taken from private colleges—Yale, Harvard, and Brown. Incidentally, the same kind of exaggeration appears in Eddy's treatment of the elective system.

A further example of mistaken emphasis appears in Eddy's handling of the state university movement. This movement as a whole involved an attempt to make higher education more widely available and more responsive to public interests. The land-grant colleges should not be confused with the whole movement of which they were but a part.

One might also raise a question about the older liberal arts colleges which do not fare well in Mr. Eddy's hands. Here he follows the lead of Carl Becker and Andrew D. White. Holding true to his success story motif, Eddy paints a very dismal picture of the nineteenth century college so that the land-grant college which he loves can shine more brightly by contrast. No doubt the old college, partly a grammar school devoted to drill and partly a platform from which the college president exhorted his students to cling to virtue, had its faults. Even the most extreme liberal arts purists among us would not actually want to return to it. But was it really as bad as Mr. Eddy implies?

I doubt that Horace Mann, who described his many stimulating evenings in the home of President Messer of Brown, or the students who accompanied tutors Leverett and Brattle of Harvard on a visit to New York would be much impressed by Mr. Eddy's judgment that the importance of close teacher-student relationships was realized only in the land-grant colleges as an outgrowth of their accepting the elective system (p. 61).

In sum, what is lacking here is perspective. In spite of his sections on general cultural history, Mr. Eddy fails to have us see the land-grant movement in the context of a widespread reform of American higher education or to recognize the relationship of this reform to an even more general modification of educational beliefs and practices. Seen in this larger context, the land-grant movement assumes its proper and important place.

If Mr. Eddy's enthusiasm sometimes leads to false emphases, it remains true that the land-grant movement *is* one of the great and unique experiments in the history of higher education. It has become a valuable instrument by which the American people have sought to express and achieve their educational and other social aspirations. Its story, which clearly deserves to be told, was begun by Earle D. Ross, whose *Democracy's College* is extensively cited by Mr. Eddy. It is well that the story has been brought up to date by one with such obvious love for his subject and such industry in ferreting out facts.

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The Christian Idea of Education, Papers and Discussions from a Seminar at Kent School, edited by Edmund Fuller. New Haven, Yale University Press, 1957. 265 pp.

In the fall of 1955 a seminar on the Christian Idea of Education was held at Kent School in connection with the commemoration of the school's fiftieth anniversary. The book under review contains the formal papers presented on that occasion by eight

distinguished Christian thinkers, together with selected excerpts from the informal discussions of these papers in ensuing small group meetings, and with an appended address on the same theme given on another occasion.

All of the prepared papers are of high quality and worthy of careful study, faithfully reflecting the brilliance and confirming the eminence of the men who authored them. As might be expected, the transcribed discussions are of less value, but they do add an occasional note of spontaneity and freshness and lend some feeling for the dialectic of ideas that animated the seminar.

Apart from an occasional bewildered or feebly dissenting voice in the discussions, the book clearly represents a conversation among the faithful. It is not a manifesto or an apology directed toward a secular world, though the challenge of secularism is evident on every page. It is a series of confessions or declarations by fully committed Christians regarding the meaning of their faith for the enterprise of education. Although most of what is said applies to education within the Christian community, and hence in private schools and colleges, many of the ideas also have considerable significance for public education.

William G. Pollard, nuclear physicist and a priest of the Episcopal Church, presents the thesis that Western culture has two radically different sources, the Graeco-Roman and the Judaeo-Christian, and that the modern Dark Age has resulted from absorption in the former to the neglect of the latter. He believes that the most fruitful category for the Christian idea of education is that of *renaissance*, and that the crucial need is to regain the capacity to respond to the Judaeo-Christian, that is, the Biblical, outlook on life. This renaissance will not be effected by institutional or curricular changes but by the influence of individual teachers who have rediscovered the power of the Christian Gospel.

E. Harris Harbison, a Protestant historian, asks whether a liberal education can be Christian and whether a Christian education can be liberal. Reinforcing his argument by perceptive historical commentary on the Christian Humanism of men such as Vittorino, Erasmus, and Comenius, he concludes that a liberal education can be, and often has been, *illumined* by Christian faith, but only on the condition that the Christian education is liberal, as it assuredly can be.

Alan Paton, of *Cry, the Beloved Country* renown, writes in exquisite prose about education as the growth of persons in community. He sees the problem of education as that of reconciling freedom and order, and the solution as the acceptance of responsibility for others in the spirit of love.

Church historian Massey H. Shepherd, Jr., endeavors to show the place which the liturgy holds as the integrating factor within the Christian concept of education. Christianity is supremely a life of communal devotion, the highest form of which is the holy Eucharist. Christian worship fulfills the objectives of education by fostering wholeness, creative activity, and opportunity for endless growth.

John Courtney Murray, a Jesuit theologian, takes as his model the third century Christian School of Alexandria founded by Origen and uses this first full-scale encounter of Christianity with the intellectual world of ancient times as a paradigm of the true path of Christian education. All truths are part of one Truth, just as there is one fountain of truth, God. The task of Christian education is to relate natural and revealed knowledge in one universe of intellectual order.

Roman Catholic philosopher Jacques Maritain begins with a statement about the Christian view of man as an organic whole, natural and supernatural, fallen in sin and needing redemption. He argues for an enlarged view of liberal education as including knowledge of the sciences and technology as well as the classical humanistic disciplines. Religion should be integrated into the whole life of the student through philosophy, liturgical activity, and self-organized teams of students concerned with

the moral and political affairs of the educational community. He concludes with a novel vision of college education for all as organized around two opposite centers, one for manual service training and the other for intellectual service training, each with its own institutes of properly oriented humanities.

Georges Florovsky, a theologian of Eastern Orthodox faith, deals with the relation of Christian faith and culture. He shows in historical perspective how the Christian community has either opposed the world's culture or attempted to transform it into a Christian culture. The function of Christian education is to prepare Christians for eternal life, but always within the context of the needs and problems of the concrete historical situation.

Reinhold Niebuhr, America's best-known Protestant theologian, returns to the theme with which the book began, namely, the two sources of Western culture. The Hellenic emphasizes rational order and coherence, the Hebraic emphasizes personal freedom and transcendence, responsibility and sin, forgiveness and reconciliation. Scientific advances, the ambiguity of traditional religious symbols, and the essentially religious quality of much ostensible irreligion are some of the causes for the modern dominance of the Greek over the Hebraic–Christian outlook. But today we are witnessing the demise of confident secularism. While no explicit application is made to education, the inference is that the Christian educator possesses resources within his faith by which modern man may be delivered from rationalistic illusions and autonomous pretensions.

In his concluding chapter Episcopal Bishop Stephen F. Bayne, Jr., urges that ultimately *God* is the teacher, and that good teaching is concerned with truth, wholeness, excellence, discrimination, and commitment.

Here indeed is a first-class collection of essays, representing the best thought of dedicated Christian scholars on the fundamental issues in the relation of their faith to education. The book is a significant contribution to the ages-long dialogue between the voices of faith and reason, cult and culture, grace and nurture.

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Helping Parents Understand Their Child's School, by Grace Langdon and Irving W. Stout. Englewood Cliffs, New Jersey, Prentice-Hall, 1957, xviii + 508 pp. $5.00.

In these days of numerous criticisms of public education, criticisms directed at both what is taught and how it is taught, any book seeking greater public understanding of the public school is a timely addition to educational literature. When such a book is written by people with the breadth of experience and depth of understanding of Grace Langdon and Irving Stout, and is based upon valid research, it becomes not only timely but significant.

The study around which the book is organized and which determined in large measure its content involved individual interviews of considerable length with the parents in 865 families residing in eight different states. Among those interviewed were families of widely different social-economic status, varied occupations, divergent educational levels, and a considerable range in number of offspring. In response to the question, "What would you like to know about your child's school?" came invariably the answer "We want to know what is being taught, why it is being taught, and how it is being taught. We wish they would *tell us*." As a result of this study, the book, in the words of the authors, "Is very different from the way it would have been had we relied on experience alone in writing it."

Helping Parents Understand Their Child's School is based on a dual premise: that it is important for parents to know about their child's life in school; that the teacher of the

child is the person best qualified, through day-by-day experience, to tell them about it. The research study supports the first premise and gives it concrete form by revealing what it is that parents want to know. In Chapter 1 the authors build a strong case for the second premise and give teachers concrete help in carrying out this responsibility.

Chapters 2 through 15 deal with all the areas of the curriculum as well as extracurricular activities. The first of these chapters is concerned with the curriculum in general, developing an understanding of the meaning of the term, a picture of the general structure of the curriculum, and the concept that the learning experiences provided by the school must change with the changing times in which youngsters live. Succeeding chapters deal with the language arts, including reading on the various levels, phonics, handwriting, spelling, listening, speaking and writing; arithmetic; science; social studies; the creative arts; vocational education; physical education; extracurricular and social activities. Many questions are raised, and the teacher is given very real help in answering them. Frequently they relate to criticisms commonly leveled at the public schools. Among them are such questions as, Why have methods changed since we were in school? How are beginners taught? Is there any drill? What is the content of this field? How do you deal with individual differences? What is done about children with special difficulties? Why is manuscript taught to beginners? What about phonics? Why can't youngsters spell?

In Chapters 16 through 19 attention is focused on questions relating to method and technique, discipline, homework, grades, report cards, and promotion and failure. These are areas under almost continuous study by curriculum groups in local school systems across the country. They are troublesome areas for teachers. Apparently parents are equally concerned. Their questions, as in other sections of the book, are basic and penetrating. The authors deal with them specifically and honestly.

The remaining chapters in the book are concerned with school services and the over-all school setup. They deal with transportation, guidance, lunch program, health, and exceptional children, and with such general problems as school organization, building and equipment, costs, and basic beliefs and policies. Here, too, the questions reveal deep parent interest and concern; here, too, the authors deal with the questions in a forthright manner.

Helping Parents Understand Their Child's School is said to be a handbook for teachers which "helps teachers anticipate, as well as answer, the questions parents will ask about their children's school." Through the parent interviews, teachers are given real help in anticipating the kinds of questions parents will ask about all facets of the school program. The authors, through their experience in teaching at all grade levels and in working with teachers, are able to give concrete assistance in answering these questions. The organization of this book, with its excellent Table of Contents and its Summarizing Suggestions and Additional Comments at the close of each chapter, makes it easy to use. Its style makes for interesting reading. It should be extremely useful in working with individual teachers and with groups of teachers. It would have a place in working particularly with teachers new to a system. It is intriguing to contemplate its use with a combined lay-faculty study group.

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Department of Elementary School Principals, *Parents and the Schools*, Thirty-sixth Yearbook. National Edueation Association, Washington, D. C., September 1957, viii + 310 pp.

Among most of today's educators there is agreement with the proposition that there should be cooperative working relationships between school personnel and parents.

Many parents voice such a sentiment in no uncertain terms. Yet it was not always so. William G. Carr, in his delightful introductory article of the book here reviewed, makes a relevant comment in this respect. Recalling the school-system organization charts learned by administration students earlier in this century, he observes that the pupils were invariably to be found "clinging precariously to the bottom edge of the chart."

"These children," he goes on to say, "were the treasured offspring of some of the citizens represented at the upper edge of the chart, but I do not remember that we ever drew even a dotted line, much less a solid one, to connect these parents with their progeny."

In this yearbook of the Department of Elementary School Principals, as in other publications of the Department, the desirability of active home and school cooperation is taken for granted. It is like most other yearbooks of the Department[1] in that it is a veritable mine of "how we did it" statements, written by principals, teachers, parents, supervisors, and directors or coordinators of instruction, and a few other authors, including state department personnel, professors, a research worker, and a superintendent or two. Their descriptive statements are organized under fourteen chapter titles, each focusing on a specific aspect of parent–school relationships.

It is greatly to the credit of the authors and editors that no easy, black-and-white generalizations are stated. The reader who seeks to find responsibilities neatly (but unrealistically) allocated to parents, teachers, and principals will, we are glad to say, be disappointed. On the other hand, there are many reports here for the person thoughtfully seeking suggestions for problems upon which teachers and parents can work cooperatively, techniques of dealing with conflicts between teacher and parent, means of keeping parents informed about a changing school program, the role of the principal in parent–school relations, or the function of citizen advisory committees.

There are articles on legal aspects of parent participation; on dealing with religious differences in the community; on ways parents can help in school clinics, libraries, and other school endeavors; on instances of cooperative teacher–parent planning; on workshops and handbooks for parents; on parent-teacher conferences about pupils' progress; and on issues and objectives in parent participation in school activities.

As in previous yearbooks of the Department, the method of compiling the yearbook has prevented its having continuity or strong cohesiveness. Actually it is not a book; it is a symposium, a collection of illuminating, informative articles of a highly practical nature. Inevitably there are gaps and duplications. Furthermore, there is nothing that is new, nor (I suspect) was there intended to be anything new.

The chief value of this publication lies in its many practical illustrations of ways in which dedicated school workers the country over are putting sound public relations theory into practice. The keynote throughout is *parent participation* in school planning and activities, with evidence that it can work and work well. It is an effective rejoinder to those skeptics in education who claim that such participation is not practicable. Some of us will contend with Stern's assertion in Chapter 14 that, "The effectiveness of any school program depends upon the degree to which it reflects interaction between the parents of the community and the school." A school's effectiveness depends on more than that. Nevertheless, this yearbook is a testament to the fact that such interaction can strongly enhance a school's effectiveness. It should be a useful reference for school personnel, and a helpful supplementary reference in the study of school administration and school-community relations.

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[1] For example, the twenty-fourth Yearbook, *Community Living in the Elementary School* (1945), and the twenty-eighth Yearbook, *The Public and the Elementary School* (1949).

The Child in the Educative Process, by Daniel A. Prescott. New York, McGraw-Hill Book Company, Inc., 1957. xiii + 502 pp. $6.50.

In *The Child in the Educative Process* Daniel Prescott reports on sixteen years of continuous experimentation with ways of helping teachers to achieve an adequate understanding of the individual children they teach. But the book is much more than a report on a project. It describes education as a process directed toward social responsibility and self-actualization. It sets forth a method, basically scientific, for studying children. It elaborates the framework of human development principles against which the teacher organizes her information about each child. It even looks to the future, suggesting how the methods of scientific child study can modify and improve education.

Beyond this, by including case studies made by teachers, the book reveals many facets of today's schooling. Through the teachers' anecdotes we see the children and the complexity of factors which enhance or hamper their learning. Equally vivid are the teachers themselves, their values, their concerns, and their biases. Very often the content of the schools' curriculum is painfully apparent. Occasionally it is rich and vital; sometimes it is thin, repetitious, and lacking in clear direction.

Any book which attempts, deliberately or otherwise, to cover as much ground as *The Child in the Educative Process* runs certain risks. Some readers will be irritated by innumerable lists of "factors," "characteristics," "types of information," and "steps to be taken." Others will react against the extensiveness of the case study material. Still others will wish for fuller references to the research which supports some of the conclusions.

In his preface Prescott says that this is not a book of final answers. Rather it is intended to stimulate further action. Certainly those who work to improve teaching stand to benefit by the tentative answers at which Prescott has arrived. Teachers can gather information about children, they can organize it, they can learn to make hypotheses about behavior causation and withhold judgments while they collect evidence, they can modify their treatment of children in line with their understanding of them, and children benefit in certain ways from such modification. But such answers raise further questions.

Implicit in many of the case studies and in the "framework for analyzing a human being" is the notion that many adjustment processes occur below the level of consciousness. Yet the unconscious aspects of the personality are rarely made explicit. The teachers are not to regard themselves as therapists but only as "facilitators of healthy growth." Is this role better fulfilled when teachers view the unconscious as a murky never-never land or when they are helped to see its workings more specifically? This is a question which plagues all who would help teachers understand children.

Somewhat related are questions regarding the teacher's own personality, her insight and understanding not only of the children but of herself. How scientifically can evidence be weighed if direct attention is not given the bias of the observer? Can teachers delve as deeply into the joys, fears, hatreds and sorrows of children as these teachers did without facing similar concerns in themselves? What kinds of emotional support do teachers need when they begin to study their pupils not merely as learners but as developing selves?

So far as the children themselves are concerned the report implies that the mental health of the children improves as their teachers learn to know them better. But can these judgments of the teachers and even of the psychological consultants be validated scientifically? On all these questions Prescott's report provides many clues but few answers.

Finally, some readers may well question the whole focus of this report. They may grant the importance of each child's uniqueness but wonder whether the teacher might not more properly emphasize the creation

of a classroom situation conducive to learning, rather than the understanding of each child. The dilemma, as Prescott indicates, is that the same learning situation has such different meanings to different children. Nevertheless, if the teacher's anecdotes present a sample of today's classrooms, improvement in the educative process also demands continuing attention to what the teacher does as she presents material, demonstrates procedures, asks questions, and in other ways guides classroom learning.

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The Teacher's Role in American Society, Fourteenth Yearbook of the John Dewey Society, edited by Lindley J. Stiles. New York, Harper and Brothers, 1957. xx + 298 pp. $4.00.

What are the social origins of the teaching profession? How do these origins affect the work of the teachers? What is the social and economic status of teachers? What have been the gains and what are the prospects for education as a profession? These and other important questions are discussed in *The Teacher's Role in American Society* by an impressive group of educators. However, the uneven quality of the contributions makes it difficult to generalize about the yearbook, especially in a way that is fair to the individual authors. Inasmuch as there are twenty chapters, most of them by different authors, it is not feasible to review each separate contribution. Therefore, I shall discuss briefly a few points under each of the four main sections of the book.

The first section, entitled "The Situation of the Teacher in American Society," deals chiefly with the social class origins of teachers. Most of the factual material accords with previous studies of the subject. However, in discussing conflicts between teachers which are said to be causally related to their social origins, the authors write: "On a national scale, with the exception of the South, the most significant division related to these situations is that between the locals of the American Federation of Teachers and the affiliates of the National Education Association." This statement in context vaguely suggests that teachers join the AFT or the NEA according to their social origins. I am not sure how the writers would explain the thousands of teachers who belong to both organizations or the even larger number who have the same social origins as AFT or NEA members, but who belong to neither organization. Nor are the implications for the intelligence of teachers particularly flattering, since it appears that their choice of teachers' organizations is made with their glands instead of with their brains.

Another line of reasoning favors the employment of teachers on a racial or religious basis to generate community support for school budgets. The recommendation is not put so crudely, but no one can doubt it: "Shrewd administrators are already aware of the advantage of having teachers who are natural contacts with the many subgroups which compose the average American community. In these days when skyrocketing school enrollments force educators to 'go to the public' again and again for bond issues, special tax levies, and higher budgets, both superintendents and teachers' organizations are fully aware of the need to 'line up' as many groups as possible behind the schools. In such situations, teachers who 'speak the language' of dominant community groups or significant minorities may enlist valuable support."

It is the opinion of this reviewer that our schools suffer too much already from this point of view. Discriminatory employment policies are frequently justified by the notion that it is desirable to have teachers whose backgrounds are similar to those of the communities in which they teach. The notion that such teachers will understand the community better has about as much merit as that of the Southerner who "knows," because he lives in the South, that most Negroes are against integration.

In general, this section tried to say that

the social origins of teachers have certain dispositional tendencies, but that one can never infer the orientation of a teacher merely from his social origin. The resulting difficulty is that the generalizations reached are too subject to exception and qualification to be of practical value.

The second section deals with "Conflicts and Problems for the Teacher." Here we read that "The person who is identified as the 'good' teacher may or may not actually be able to teach. Administrators, guided by community opinion, may tend to select teachers on the basis of factors that have no demonstrable relationship to effective classroom instruction." Such administrators may have been taking the advice of the authors in Part I, who recommended the employment of teachers who could help build community support for school budgets.

In analyzing the status of the teacher as a citizen, this section effectively documents the political ineptitude of the teaching profession. It also criticizes a number of fallacies which inhibit teachers from becoming more active politically. For example, it suggests that the teacher's lack of political activity "does not guarantee objectivity and participation does not necessarily mean teaching bias." Actually, as this section points out, politically active teachers are as objective in class as teachers who are not active politically, perhaps even more so.

Part of this section is devoted to the economic status of teachers and the extent of their participation in community activities. Although excellent in its realistic portrayal of the inferior status of teachers, its concern that the teacher should participate more in community activities is open to question. The authors themselves note that doctors, who enjoy the highest prestige of all professions, have very little time for nonmedical work. Nevertheless, they ask that teachers be accepted and paid as professionals in practically the same breath that they ask teachers to place more emphasis upon their community (that is, nonprofessional) activities.

The last section, devoted to "The Profession of the Teacher," includes some incisive analyses which are in sharp opposition to positions taken earlier in the yearbook. For example, this section effectively questions the value of questionnaires to elicit from teachers the reasons why they selected teaching as an occupation. Nevertheless, some previous sections were based upon the results of such questionnaires. An excellent brief summary of the career patterns of teachers was marred slightly for this reviewer by a confession of inability to locate data on the extra-contractual income of teachers. Research on the subject is scarce, but this reviewer knows of at least two dissertations in this field. The final chapter includes a number of thought-provoking suggestions to strengthen the teaching profession; the analysis of the certification muddle and the discussion of the steps needed to straighten it out are especially good.

Despite its many virtues, the yearbook can be justly criticized for overlooking certain factors which are extremely important to the status of an occupational group. Thus there is no analysis of the reasons for the ineffectiveness of teachers' organizations. Another remarkable omission is the absence of any discussion concerning control of entry and expulsion by teachers. Omissions such as these, in a yearbook written by a number of our best-known educational leaders, are an important clue to the current deprofessionalization of education.

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